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Programme

Media and Information Literacy for Knowledge Societies

Ministry of Culture of the Russian Fedration
Federal Agency for Press and Mass Communications
Commission of the Russian Federation for UNESCO
UNESCO Institute for Information Technologies in Education
Russian Committee of the UNESCO Information for All Programme
Interregional Library Cooperation Centre

Media and Information Literacy for Knowledge Societies

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The authors are responsible for the choice and presentation of facts and for the opinions expressed, which are not necessarily those of the compilers.

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Preface

In order to raise public awareness of the significance, scale and topicality of the tasks of media and information literacy advocacy among information, media and educational professionals, government executives and public at large, the International Conference *Media and Information Literacy for Knowledge Societies* was held in Moscow, Russian Federation, on 24–28 June, 2012.

The Conference was organised by the Ministry of Culture of the Russian Federation, the Federal Agency for Press and Mass Communications, the Commission of the Russian Federation for UNESCO, UNESCO Information for All Programme and UNESCO Secretariat, the International Federation of Library Associations and Institutions (IFLA), the UNESCO Institute for Information Technologies in Education, the Russian Committee of the UNESCO Information for All Programme, and the Interregional Library Cooperation Centre within the framework of Russia's chairmanship in the Intergovernmental UNESCO Information for All Programme.

The Conference offered a unique opportunity for the delegates to identify the key existing challenges in the field, to outline policies and professional strategies for the advocacy of media and information literacy (MIL), to promote best practices and strengthen international cooperation among various stakeholders. In particular the following topics were discussed:

- MIL conceptualization within Knowledge Societies;
- Assessment of national competencies on MIL;
- Development of MIL indicators;
- MIL mainstreaming, application and advocacy;
- MIL capacity building, tools and resources:
    - ▷ MIL in education of professional community and continuous professional development,
    - ▷ MIL integration in educational system, roles and responsibilities, national and institutional adaptation of tools and resources, and knowledge sharing,
    - ▷ MIL for marginalized social groups (youth, elderly people, persons with disabilities, women).

Regarding that MIL is directly linked to UNESCO's mandate and strategic objectives oriented to build inclusive knowledge societies, holding this Conference was also significant for consolidating and further developing the

UNESCO Information for All Programme established primarily for providing guidance to all of the UNESCO Member States involved in building an inclusive pluralistic information society.

The Conference gathered approximately 130 participants from 40 countries representing all continents – Argentina, Australia, Azerbaijan, Bangladesh, Belarus, Brazil, Canada, Cape Verde, China, Croatia, Egypt, Finland, France, Germany, Hungary, India, Iraq, Israel, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lebanon, Lithuania, Malaysia, Mexico, Moldova, the Netherlands, Norway, the Philippines, Poland, Qatar, Russian Federation, Serbia, Sudan, Turkey, Ukraine, United Kingdom, United States of America, Zambia.

Various aspects of MIL and the activities aimed at its promotion worldwide were discussed by executives and experts of key specialized international governmental and non-governmental agencies and organizations, world leading experts in the field of knowledge societies building; leading researchers and professors of journalism, librarianship and education; executives and representatives of government authorities responsible for educational institutions, libraries, printed and electronic media; representatives of international and national associations of media and information literacy professionals; representatives of organisations and institutions engaged in publishing professional literature on media and information literacy; media practitioners.

A special round table *Instruments of MIL Promotion. Challenges of the Localization of the UNESCO MIL Curriculum for Teachers* was held within the conference with the support by the UNESCO Institute for Information Technologies in Education (IITE). The primary goal of the round table was to provide a platform for discussing the UNESCO MIL Curriculum for Teachers as one of the important instruments of MIL promotion, to identify key challenges of the Curriculum's localization with due account for regional and cultural peculiarities. Russian and foreign experts also discussed the use of MIL Handbook developed by the UNESCO IITE in cooperation with the Finnish Society on Media Education in the educational process.

The final document – **The Moscow Declaration on Media and Information Literacy** – was discussed and unanimously adopted at the Conference closing session.

Messages

Message by Jānis Kārkliņš, UNESCO Assistant Director-General for Communication and Information, to the participants of the international conference "Media and Information Literacy in Knowledge Societies"

Ladies and gentlemen,

I am particularly honoured to welcome the participants of the international Conference on "Media and Information Literacy in Knowledge Societies" in Moscow. The theme of the Conference is fully in line with UNESCO's mandate as it aims to raise awareness of the significance, role and scale of media and information literacy and improve policies and professional strategies at international, regional and national levels.

For several decades, UNESCO has been advocating and promoting the fact that literacy is an inherent part of the right to education, where information, ICTs and media play a crucial role in the creation of literate societies.

This year, the outcomes of the Literacy Decade which was launched in 2003 will be evaluated, and the final report will be presented to the UN General Assembly at its 2013 session. We observe at a global level that literacy rates have indeed increased during this period, but this increase is at a very slow rate in some regions, such as South and West Asia, and in Sub-Saharan Africa. Looking even further ahead, it is evident that without considerable efforts many countries will not achieve the 2015 targets of the Education for All and the Millennium Development Goals, including primary education and literacy.

At the same time, other regions, such as Eastern Europe and Central Asia, have achieved significant results in basic literacy. However, I would like to emphasize that these regions still need to pick up on new types of literacies and application of ICTs.

Therefore, UNESCO welcomes and thanks the host of this Conference for organizing this important event. I express my sincere appreciation to the efforts of Mr Evgeny Kuzmin, Chairperson of the UNESCO Information for All Programme, and his team from the Russian IFAP Committee for the promotion and implementation of the strategic IFAP objectives.

Ladies and gentlemen,

The notion of literacy is constantly changing. We are undergoing a technological revolution and witnessing important demographic, economic and socio-political changes occurring throughout the world. Physical and virtual mobility is on the increase, and climate changes are already affecting our water resources, agriculture, land resources, and biodiversity. The impact of globalization around the world influences us in a way we never could have imagined. What was an issue for a small community yesterday is a global concern for everyone today. Many countries are therefore now more diverse, more multicultural, more interlinked than ever before. This creates the challenge of helping people from diverse social and economic backgrounds to succeed and participate in an ever more complex world. As a result, broader concepts and aspects have evolved in response to these changes in society.

At UNESCO, we recognize that today's society needs to apply a new notion of literacy which is **plural, dynamic and situational,** relating not only to basic writing and numeracy skills in one language, but also the ability to identify, understand, create, communicate and compute information in various languages. It is also equally necessary to critically engage with media messages, and produce content to be shared through diverse communication and information tools. It also means that literacy involves **a continuum of learning** for individuals to achieve their goals, develop their knowledge potentially and participate fully in community and wider society.

UNESCO promotes Media and Information Literacy as a composite concept that reflects and addresses current changes, emerging issues and challenges that we all face nowadays. We believe that **Media and Information Literacy** is one of the prerequisites for building inclusive, open, participatory and pluralistic knowledge societies.

Firstly, we experience a shift of paradigms which occurs due to the constantly evolving environment. All of us need to obtain a critical mass of new competencies composed of new skills, attitudes and knowledge to make best of new opportunities, tools and resources. Therefore, it is essential for us to **become more self-aware, self-directed and self-acting throughout our life time**.

Secondly, there are **a number of technological developments that already change our societies and can no longer be ignored speaking in the context of literacy**. The trends are closely linked to the theme of the conference – Media and Information Literacy.

1. The **exponential growth of data and information creates new challenges** on how to store and preserve the data properly, access,

analyse, use information and create knowledge in a most meaningful and ethical way. Altogether, it requires for new competencies to live and work together.

2. Digital divide between countries is aggravated by a **growing divide between generations**. From passive users of information, users, often children and youth, became active producers of information and media products. In 2011 the number of people using the Internet reached 2.1 billion worldwide and 45 per cent of those Internet users are under the age of 25.
3. Content is no longer produced by specialized institutions or professional communities. The **user generated content is increasing and new platforms to accommodate this demand are growing**. For example, 1 trillion of video playbacks on YouTube shows just how fast and widely content is distributed and observed by viewers. It means that content that was previously produced by professional content producers whether writers, journalists or other category of professionals, now can be produced and widely shared by everyone.

The world is changing but educational institutions, libraries, media, educators and other information providers will remain key players as long as they keep reassessing and reevaluating their own role and functions in finding new and innovative ways to be more adaptive and valuable for social, political, economic and of course technological development.

Ladies and gentlemen,

Let me briefly highlight the major activities of UNESCO in the area of Media and Information Literacy:

- Taking the literacy concept further, UNESCO formulated a **concept of Media and Information Literacy**, to define the ability of people to interpret and make informed judgements on the information that they consume. It also helps them to become skillful creators and producers of information and media messages in their own right.
- UNESCO encourages the development of national information and media literacy policies of the Member States, including in education. UNESCO published **"Media and Information Literacy Curriculum for Teachers"** last year which serves for wider discussions and capacity building of teachers to apply MIL in education.
- UNESCO is preparing a model **Guidelines for Articulating MIL Policies and Strategies**.

- With a group of world leading experts, we are currently developing **Media and Information Literacy Indicators** for education specialists to assess the level of media and information literacy in society. This Conference will contribute to this process as a special parallel session is organized during your event.
- UNESCO, together with United Nations Alliance of Civilizations, established a **University Network on Media and Information Literacy and Intercultural Dialogue** (MILID) which met in Barcelona, Spain in May 2012 to celebrate a MILID Week. I invite universities from Eastern European and Central Asian regions to manifest their interest in joining the network.
- UNESCO is working on an interactive **online course on Media and Information Literacy**.
- Last year in Fez (Morocco), UNESCO, in cooperation with a number of strategic partners, organized the first **Forum on Media and Information Literacy,** and in 2013 UNESCO will organize a **Global Forum for Partnerships on MIL and a Pan-African International Conference on MIL**.

These are just a few examples of the areas which UNESCO views as important elements in building media and information literate societies, and areas where cooperation can be facilitated to work towards literacy goals.

In conclusion, ladies and gentlemen, I wish you successful deliberations at the Conference and hope that its results will foster common understanding on MIL and joint actions on its promotion.

Jānis Kārkliņš

Message by Ingrid Parent, President of the International Federation of Library Associations and Institutions, on the occasion of the international conference "Media and Information Literacy in Knowledge Societies"

Dear Mr Kuzmin,

On behalf of the International Federation of Library Associations and Institutions (IFLA) I would like to convey my greetings at this very important event and wish you all very productive and stimulating days at the conference.

IFLA and UNESCO have a long history of collaboration. A number of significant IFLA policies have been endorsed by IFAP and UNESCO. These policies continue to have a great impact at a global level and contribute to the development of frameworks for high-quality library services.

There is a need to raise awareness among governments and other stakeholders so that the proper strategies to foster information skills and competencies are developed for all citizens. We believe that media and information literacy needs to be fully integrated in national policies to reach the Millennium Development Goals and the objectives as set out by the World Summit on the Information Society.

I would like to emphasise the value of our joint initiatives. Our partnership provides a stronger foundation on which to lobby for and implement media and information literacy activities worldwide. This conference is an excellent example.

Once again, my very best wishes for the conference. IFLA is looking forward to the outcomes of the discussions which will take place in the next days and to our further collaboration to promote Media and Information Literacy worldwide.

Ingrid Parent

Message by Grigory Ordzhonikidze, Executive Secretary of the Russian National Commission for UNESCO, to the participants of the international conference "Media and Information Literacy in Knowledge Societies"

I greet the organizers and participants of the international conference on Media and Information Literacy in Knowledge Societies from the bottom of my heart.

The theme and goals of this forum are extremely topical. Personal media and information literacy greatly determines the implementation of the rights to quality education and life with dignity as information and communication technologies are developing apace, and information flows are swelling and getting ever more sophisticated. In this situation, the ability to handle these flows is an earnest of success in creating democratic knowledge societies, guaranteeing information security, and meeting other challenges that face practically all nations in the world.

Major progress has been made lately in the promotion of media and information literacy. We largely owe it to many of the participants in this conference. The International Federation of Library Associations and Institutions (IFLA) and the Russian IFAP Committee are making a unique contribution to the implementation of the UNESCO Information for All Programme, which is of essential importance to the world. The Russian National Commission for UNESCO enthusiastically approves and supports these fruitful collective efforts.

This is a third major international forum hosted by Russia during its chairmanship in the Intergovernmental Council of the UNESCO Information for All Programme. The two previous ones, which gathered in Yakutsk and Moscow in 2011, concerned the preservation and promotion of linguistic and cultural diversity in cyberspace and the preservation of digital information in information society. Both conferences were extremely fruitful and deservedly received broad international acclaim.

I am sure that this conference will promote the solution of many burning problems, help its participants to share experience in the promotion of media and information literacy, and make a stride in building knowledge societies worldwide.

I wish you every success in your fruitful work and the implementation of all your plans.

Grigory Ordzhonikidze

Message by Mikhail Seslavinsky, Head of the Federal Agency for Press and Mass Communications, to the participants of the international conference "Media and Information Literacy in Knowledge Societies"

Ladies and gentlemen,

Allow me to greet you on behalf of the Federal Agency for Press and Mass Communications at this notable forum organized in the framework of Russia's chairmanship in the Intergovernmental Council of the UNESCO Information for All Programme.

Media and information literacy is indispensable for social progress in the present-day world. By media and information literacy we understand a sum total of motivations, knowledge, skills and habits that help to find one's bearings in the digital world, which is spreading globally. Such literacy demands not mere use of all types of information resources – oral, written and multimedia – but a critical frame of mind that allows understanding and interpretation of information received in the various fields of professional and educational activities.

An individual and a community should possess relevant information about themselves, their physical environment and social milieu, and use such information to the greatest possible effect if they are to arrange their life reasonably and efficiently meet personal and social challenges. This goal vitally concerns all thinking people. That is why your conference has aroused such interest. Taking part in it are approximately 120 representatives of public services and mass media, and managers and experts on librarianship, the press and electronic media. Apart from UNESCO, this conference was organized by the International Federation of Library Associations and Institutions (IFLA), and their cooperation is of especial importance.

I am sure that the conference will help to open all eyes to the necessity of promoting media and information literacy as preparing people to the new conditions of professional activities and everyday life in an extremely sophisticated information environment, and helping them to cope with this environment independently, use its benefits to great effect, and protect themselves from its negative impact.

I wish you fruitful work and a pleasant sojourn in Moscow.

Mikhail Seslavinsky

Message by Grigory Ivliev, Deputy Minister of Culture of the Russian Federation, to the participants of the international conference "Media and Information Literacy in Knowledge Societies"

Ladies and gentlemen,

I have the honour of greeting you, participants of the international conference on Media and Information Literacy in Knowledge Societies – a major forum that has gathered representatives of more than forty countries from every part of the world. I am glad that this event of global importance was initiated and convened in Russia, which currently presides in the Intergovernmental Council of the UNESCO Information for All Programme. This country has scored major achievements in information culture and media education, and many Russian experts – especially educationalists and librarians – take great interest in this theme.

The Ministry of Culture of the Russian Federation has for many years rendered all-round support to leading Russian cultural, educational and research institutions in the implementation of the UNESCO Information for All Programme, which holds information literacy as one of its top priorities.

The theme of this conference is of vital importance today as people are flooded with information in professional activities and everyday life. Efficient orientation in information flows and the ability to create one's own information products are indispensable for quality education, professional fulfilment, participation in cultural and community life, and personal safety.

Due to your efforts, certain progress is evident even now in training people for the new situation in everyday life and professional activities as the information environment is getting ever more sophisticated. The desire to bring together two interrelated categories – media literacy and information literacy, as reflected in the conference name – deserves the utmost approval. This pooling will certainly help people to use the benefits of the Digital Age, protect them from its negative impact, promote the right of access to information, bridge the digital gap, improve management and governance, and enhance their democratic spirit.

I wish you every success and fruitful and interesting work together.

Grigory Ivliev

Media and Information Literacy in the International Agenda

Media and Information Competence in the Context of Challenges of Information Society and Knowledge Society Building

Evgeny KUZMIN
Chairman, Intergovernmental Council and Russian Committee,
UNESCO Information for All Programme;
Member, Commission of the Russian Federation for UNESCO
President, Interregional Library Cooperation Centre
(Moscow, Russian Federation)

The modern world is saturated with information, which is growing ever more sophisticated. Information and communication technology and gadgetry have penetrated everywhere. That is why people need purposefully formed media and information competence – or they will feel lost, stunned by the world's complexity, blind to the causes and motive forces of epoch-making events, and so will be unable to make correct decisions in everyday and professional life.

There was a time when only experts – librarians, teachers, and theoreticians of the media – mentioned this problem. Now, it receives ever greater attention from political decision-makers at the national and international levels.

Indicatively, this is the first UNESCO conference bringing together numerous experts from two spheres – media literacy and competence, which represents mainly journalists and media researchers, and information literacy and competence, concerning mainly teachers and librarians. These spheres used to develop separately, in mutual rivalry, and argued between themselves which of the two was primal – the media or information – and whether media or information literacy was the more important.

It matters tremendously that both groups of top-notch experts are meeting each other halfway now, and trying to integrate both approaches under the aegis of the UNESCO Intergovernmental Information for All Programme.

I see the following principal goals in this sphere:

1. training qualified experts to teach media and information literacy/ competence in formal educational establishments and among employed adults;

2. drawing diversified and high-quality curricula;
3. advancing media and information competence in education and in educational and communication policies to create knowledge societies worldwide.

I deliberately omit the contentual, methodological, didactic and other aspects of promoting media and information competence as I highlight certain essential features of the situation in which this work proceeds, and particular aspects of building knowledge societies.

Today, almost all UNESCO Member States declare that the building of just, inclusive, pluralistic and participatory knowledge societies is their goal. To build knowledge societies is a must in the 21st century. The world has no other universally recognized option. Such is the conclusion we can make on the basis of international political documents proclaiming these societies.

The benefits of ICT are actively discussed in this context as an excellent basis for the liberation and fulfilment of the human creative potential, for greater production efficiency, transparent management, the public monitoring of governments, etc.

UNESCO developed a concept of knowledge societies in the run-up to the World Summit on Information Society. This concept rests on four principles: universal access to information, equal access to education, freedom of expression, and respect of cultural heritage and cultural diversity.

This world would be sheer paradise if it observed all those principles and information technologies promoted human fulfilment in virtue, without a shadow of evil motivations. However, the world is still far from perfection, and clever minds are somewhat apprehensive of its progress, especially because a thoroughly new reality, cyberspace, appeared twenty years ago and is rapidly developing.

ICTs have created a fantastic foundation for free communication and expression. Information easily crosses borders between countries due to the accessibility of the Internet and these technologies – something unheard-of quite recently!

Created by one author, information becomes accessible worldwide with lightning speed. The volume of content accessible to the public is growing exponentially as information grows ever more sophisticated. Take new texts alone: more appeared last year than carried by all books written throughout world history.

The growing volume of publicly accessible content and easy access to surface information, which the people-in-the-street mostly use, have produced

the illusion that the Internet contains everything one needs to know. As things really are, access to quality educational and scientific materials, which used to be freely exchanged in the Paper Age, is hindered today.

More than that, pampered by easy access to online information here and now – and never mind its quality, people rapidly get out of the habit of using libraries and research information centres.

The creation of publicly accessible information resources is no longer the privilege of a narrow circle of expert authors and organizations – publishers, television and radio companies, and influential periodicals.

In the past, information never gained public access before it was thoroughly checked and selected by experienced and demanding editors, reviewers and suchlike, to say nothing of censorship. Today, every man and woman on earth can produce accessible content – not only the best educated and most responsible.

Information is created, disseminated and imposed on us by a vast number of stupid, ignorant, irresponsible and malicious, or downright crazy people. As the result, Internet is full of both valuable and truthful information, and harmful and false one.

In the days of old, it was hard to retrieve and obtain information. Now, it is hard to get away from it and sometimes protect oneself from its impact. Our social life is becoming more transparent and monitored – and we can consider it a positive trend; but our private life undergoes the same changes, and this is bad.

The mass communication media are increasingly turning into mass entertainment and mass manipulation media. Global and major national media outlets are concentrating in the hands of an ever smaller number of families while other outlets are rapidly degenerating into tabloids. However many digital television and other information channels we might have, they create and disseminate similar content, especially where political news of the world are concerned.

People all over the world are reading less and are reluctant to master the wealth of their cultures. Readers are getting more and more superfluous. They have problems with expressing their thoughts and understanding the meaning of the increasingly complicated reality in their native tongues. Intellectuals with analytical minds are being replaced by people of the clip-and-paste mentality.

Some 15–20 years ago, people thought that ICTs would bridge the gaps on the way to information and knowledge. Today, it is absolutely clear that these gaps are becoming wider. Moreover, it is proved that an information gap is a social gap, and ICTs pace up social stratification. Their extensive use promotes capital concentration and widens property gaps. Besides, information

barriers also imply language barriers because access to information is free and comprehensive only when the content is presented in the language in which the user is fluent.

ICTs speed up the process of language extinction and obliterate knowledge and unique philosophy stored in languages. According to some pessimistic forecasts, 90% of the currently existing 7,000 languages will become extinct by the end of the 21st century and will take along all the knowledge they convey. This is a very dangerous trend.

Information society destroys traditional ethical and moral ideas that took shape over the centuries. Virtual reality substitutes actuality for too many. The number of cybercrimes is tremendous. This world is becoming an ever more disturbed place, and ICTs are doing much to destroy its calm. Cyberspace prompts public unrest and revolutions.

Leading players regard cyberspace as the key to domination in reality – hence a feverish race for virtual domination. Numerous figures of world purport have made ICTs and cyberspace mere tools to get their economic, political, ideological and cultural ends. Others grow ever more assured that cyberspace is the source of the greatest dangers for the existing world order, national governments, ethnic and cultural identity, and the sovereignty of all countries.

What we most often see in practice is the triumph of one-sided stances, which make no consideration of the most general laws of philosophy and developmental patterns – in this instance, the fundamental developmental problems of information society, and the necessity of building knowledge societies.

Such one-sided policies lay the main emphasis on economic profitability and technological and infrastructural development while paying far smaller attention or totally shrugging off other essential aspects (the content and accessibility of information, the state of information institutions, and people who create or consume information).

Paradoxically, there is still no internationally accepted scholarly definition of knowledge society. In our vague perception, it is at once a sublime ideal, a noble goal, a propaganda cliché, a political term, speculation, utopia and reality – depending on who uses the term, in what situation and with what aim in view.

As the International Union of Journalists declared late in the 1990s, "information society is the 21st century puzzle. No one knows just what it is about." The world has not come any closer to its understanding since then. The only change came when a synonymic term, "knowledge societies", was introduced.

But what is knowledge society? We still have no academic and generally recognized definition for this phenomenon, so I would like to present to you a definition of knowledge society that we have made in Moscow, at the Russian Committee of the UNESCO Information for All Programme. The definition has three parts.

1. **Knowledge society** is such a condition of society when the efficiency of its structural components correlates directly to the quantity and quality of information, authenticity of its resources and reliability of transmission channels which are required by and are sufficient for each of the components.

2. **Knowledge society** is society in which the vast majority of its members know which information should be used in ordinary and emergency situations, both professional and personal. They know where to search for this information, and how to assess and apply it.

3. **Knowledge society** is such a condition of society when institutions responsible for production and distribution of information generate it in the amount and quality which ensure its efficient use by all members of society.

We realize that it is not a scientific definition because it omits essential aspects of societal evolution, such as production forces and social relations. However, we think it is a pragmatic and convenient definition. Add to it the four UNESCO principles mentioned in the beginning of this contribution – and the goal of building knowledge societies will become much clearer.

As follows from it, while building knowledge societies, we have to take into consideration the development not only of ICTs, but also of other fields, the most important of which are culture, science and education. It is insufficient to develop infrastructure, enhance the use of technologies, ensure accessibility of financial and banking services, create and develop e-governance, and educate e-citizens. There are other fields deserving attention, particularly culture, science, and education – in short, the human factor.

As also follows from the definition, knowledge societies cannot be built without monitoring the global developmental trends of the information environment. No less indispensable are institutions selecting and verifying information, its responsible custodians – above all, government libraries and archives, and expert information navigators.

The development of information society is a powerful global process, which is partly spontaneous and partly planned, manageable and controllable, while only balanced and purposeful policies can lead to at least a certain amount of justice in knowledge societies.

To bring spontaneous information society into order and build knowledge societies all over the world is an extremely ambitious endeavour.

It is very important to realize that building an inclusive information society for all, i.e. knowledge societies, can be achieved only through a targeted policy.

In the foreground are activities in such spheres as media and information literacy/competence, accessibility and preservation of information, information ethics, information for development, and multilingualism in cyberspace.

Such are the priorities of the UNESCO Intergovernmental Information for All Programme. Its principal duty is to help the governments of the UNESCO Member States outline the policy of building inclusive knowledge societies by drafting uniform guidelines – universal and sectoral.

This is the only intergovernmental programme in the world which undertakes a comprehensive study of those issues. It is critically important to realize that IFAP priorities as constituent elements of information policies are closely interrelated.

Universal access to the latest quality information is inconceivable unless we preserve information, acquire relevant information competence, elaborate efficient, development-oriented information policies, and achieve universal compliance with ethical principles. It is impossible to preserve digital information without a scientifically based policy, information ethics, and relevant information competence. To develop the latter, we need a policy of its promotion in the national education networks, etc.

Thus, the policy of building knowledge societies should be formed on a fundamental interdisciplinary scientific basis, proceeding from intersectoral/ interdepartmental approaches and cooperation.

It is important to point out that various and numerous events and projects organized and executed by IFAP within the Russian chairmanship in the Programme reflect all the priority lines of actions of the IFAP Strategic Plan and are carried out in almost every region of the world. In 2010–2012 alone, they engaged representatives of over 120 countries of all regions – politicians, government officials, researchers, librarians, archive and museum specialists, writers, publishers, university professors, school teachers, service and content providers, representatives of international organizations that are UNESCO's strategic partners (such as ITU, IFLA, Council of Europe), national commissions for UNESCO, non-governmental structures and industries.

IFAP pays such great attention to media and information literacy/competence also because it takes highly educated and information competent people to build knowledge societies – a job which implies the following:

1. the scientifically based elaboration and implementation of a relevant policy,
2. the creation and arrangement of topical quality information,
3. the creation and circulation of multilingual systems for access to information and guarantees of its proper use,
4. the selection and preservation of information that promises to be useful in the future,
5. the formation, improvement and promotion of ethics of the new information environment.

I am convinced that a majority of nations of the whole world will gain spectacularly if media and information literacy/competence, access to information, information ethics, the use of information for development, its preservation, and the promotion of multilingualism in cyberspace become the basis of national and international politics – particularly, for UNESCO, which is the only international organization that consistently studies cultural, ethical and societal aspects and challenges going side by side with the processes of the emerging global information society.

Towards a Holistic Approach to Literacy: Media and Information Literacy

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Introduction

The world is constantly undergoing through radical changes that are having profound effects on individuals, communities, and entire nation states. The rate of any form of change will depend on how fast and efficiently existing structures can be modified, current practices adapted to new complexity, and new tools developed to solve problems. In response to these evolving needs and challenges, new notions of literacy have emerged and provide new theoretical, pedagogical, practical, policy, and research perspectives. Some of them integrate information and communication-related competencies into the Media and Information Literacy Framework.

Concepts of literacy and the United Nations Literacy Decade

Traditionally, literacy has been defined as the ability to read, write, and count[1]. This notion was promoted and applied in practice not only by UNESCO, but also by other United Nations system organizations, policy and decision makers, national institutions, professional communities and academia. It was jointly advocated that literacy is an inherent part of the right to education, employment, health and well-being. In 2002, the United Nations Literacy Decade Initiative was launched as a mechanism for ensuring a long-term support for literacy from multiple stakeholders[2].

During this period, numerous programmes and concrete projects were launched to achieve international commitments. At the global level, literacy rates have increased during this period, resulting in significant improvements

[1] EFA Education for All Global Monitoring Report, 2006. http://www.unesco.org/education/GMR2006/full/chapt6_eng.pdf.
[2] http://www.unesco.org/new/en/education/themes/education-building-blocks/literacy/un-literacy-decade/.

in basic literacy in some countries[3,4,5]. But many other countries still need to put more effort into promoting literacy, which will involve defining new types of literacy and the application of ICTs. At the same time, the concept, status, and processes of literacy have changed. The UN Literacy Decade's International Strategic Framework for Action (2009) points out that literacy is complex and multi-dimensional, intersecting with most domains of life and serving different purposes. Therefore, literacy should neither be reduced to a mere skill or technical competence nor be limited in the domains of use. It demands bold initiatives and innovative approaches[6].

Today, an evaluation of the achievements and impact of the UN Literacy Decade is under way and the outcomes will be presented to the UN General Assembly at its 2013 session. As it is not clear whether the decade will be extended, it is therefore important to secure interest and sustainable support to literacy[7]. The 2006 Education for All (EFA)[8] Monitoring Report also stressed the impact of new technologies on the concept and context of literacy worldwide, stating that the acquisition of basic literacy and numeracy alone, without obtaining foundation skills, is not enough to secure good jobs and to succeed in different facets of life.

Role of literacy in building Knowledge Societies

During the first phase of the World Summit on the Information Society (Geneva 2003), UNESCO introduced the concept of Knowledge Societies, an idea that goes beyond technological development, infrastructure and connectivity aspects. Knowledge Societies are seen as open, pluralistic, inclusive and participatory.

In this regard, fundamental questions arise: what kinds of skills, knowledge and attitudes are required in order to participate and get full benefits from Knowledge Societies, and how can these skills, knowledge and attitudes keep pace with the rapid developments in society?

[3] UNESCO Institute for Statistics (2012). Adult and youth literacy, 1990–2015. Analysis of data for 41 selected countries, September 2012. http://www.uis.unesco.org/literacy/Documents/UIS-literacy-statistics-1990-2015-en.pdf.

[4] Ofulue, C. I. (2011). Literacy at a Distance in Multilingual Contexts: Issues and Challenges. International Review of Research in Open and Distance Learning. Vol 12, No 6. http://www.irrodl.org/index.php/irrodl/article/view/981/1957.

[5] Progress in education, 2011. One living proof. http://www.one.org/livingproof/en/article/progress-in-education/ (cited on August 2012).

[6] http://www.seminar.net/index.php/volume-7-issue-1-2011/172-visual-competence-media-literacy-and-qnew-literaciesq-conceptual-considerations-in-a-plural-discursive-landscape (cited on 6 February 2013).

[7] United Nations Literacy Decade (UNLD) (2003–2012), Expert Meeting on UNLD Evaluation 9–10 May 2011, UNESCO. http://unesdoc.unesco.org/images/0021/002127/212735e.pdf (cited on 5 January 2013).

[8] EFA Education for All Global Monitoring Report, 2006. http://www.unesco.org/education/GMR2006/full/chapt6_eng.pdf.

There are many ongoing discussions and debates around these questions among academics, educators, policy and decision makers, employers, and citizens themselves. Different answers and solutions are provided, but one of the most common responses is that there is a need to acquire a set of competences[9,10,11] that enables an individual, community or nation to perform tasks using existing resources and tools in a most efficient and ethical manner. The argument is also advanced that because information and knowledge are strategic resources, there is a global human development benefit to be gained through enabling citizens with diverse social and professional backgrounds to access, evaluate, utilize, create and share information and knowledge[12]. Consequently, a new literacy framework is evolving that takes into account information, technology, and media perspectives.

The exponential growth of data and information, the constant introduction of new ICTs, and the exposure to media and its content, is imposing a number of structural and behavioral changes. In particular, it alters the ways people access, evaluate, and use information to produce knowledge and communicate with each other. Access to information and production of knowledge in different forms and formats is no longer the exclusive domain of specialized institutions or professional communities. Citizens are increasingly becoming not only information or media content consumers, but also producers and evaluators, through the use of various tools and media. User-generated content is growing and new platforms for sharing information and media content are emerging. In short, information and content can now be easily produced, accessed and shared by nearly everyone, leading to increased collaboration and greater participation by citizens in society.

Technological trends and changes also influence professional practices and attitudes. Social media platforms and technological solutions such as interactive tablets, smart phones, etc. are not only means for communication between people, but also powerful tools for education, social participation, public debate, and engagement. Cloud computing and crowdsourcing provide numerous opportunities for professional and non-professional communities, contributing to

[9] Developing a Competency Framework. Linking Company Objectives and Personal Performance. MindTools. http://www.mindtools.com/pages/article/newISS_91.htm (cited on 29 January 2013).

[10] Buiskool, B. J., Broek, S. D., van Lakerveld, J. A., Zarifis, G. K., Osborne, M. (2011). Key competences for adult learning professionals. Contribution to the development of a reference framework of key competences for adult learning professionals, European Commission, DG EAC. http://ec.europa.eu/education/more-information/doc/2010/keycomp.pdf (cited on 10 January 2013).

[11] Ferrari, A. (2012). Digital Competence in Practice: An Analysis of Frameworks. JRC Technical reports. EC. http://ftp.jrc.es/EURdoc/JRC68116.pdf (cited on 1 February 2013).

[12] World Report – Towards Knowledge Societies (2005) UNESCO, Paris.

economic and societal development. These new practices create not only new conditions for a more open and transparent society; they have also changed our attitudes and the way we learn, communicate and work together.

These processes lead to the association or merger of different disciplines, outlining new demands and the evolution of new concepts related to information, communication, media, and ICTs in the 21st century. A merge of different concepts and the blurring of historical boundaries between certain academic disciplines are thus observed. It becomes difficult to draw a clear line between where one type of literacy ends and another begins. In a constantly changing environment, everyone needs to develop an understanding of the factors and principles that will assist them in acting responsibly and ethically[13].

UNESCO's response

Taking the literacy concept further, UNESCO has introduced a composite concept of Media and Information Literacy[14] in to the questions above. It is an attempt to unite information literacy, media literacy, ICT literacy, digital literacy, and other literacy issues within a single holistic and integrated framework. There are still many questions to be answered about whether the selected conceptual approach is inclusive enough or whether a framework can be applied at a practical level, but it is already clear that the approach aims at establishing closer links between different types of literacies and is indeed leading to a more integrated and holistic approach towards developing the competences required for the 21st century.

The Media and Information Literacy (MIL) concept is based on universal human rights and is regarded as fundamental for individuals, communities and entire nations to exercise their freedom of expression and right to access information. Article 19 of the Universal Declaration of Human Rights states that "Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers"[15].

In the same spirit, UNESCO believes that the Media and Information Literacy is essential to empower citizenries all around the world to benefit

[13] Lippincott, J. K. Student Content Creators: Convergence of Literacies. Educause review. November/December 2007. http://net.educause.edu/ir/library/pdf/ERM07610.pdf (cited on 20 December 2012).

[14] http://www.unesco.org/new/en/communication-and-information/media-development/media-literacy/mil-as-composite-concept/ (cited on 15 February 2013).

[15] United Nations Human Rights Declaration, Article 19 (1948). http://www.un.org/en/documents/udhr/index.shtml (cited on 10 February 2013).

fully from this fundamental right so that they can fully participate in society and accomplish individual and professional goals. Therefore, MIL is seen as one of the prerequisites for building inclusive, open, participatory and pluralistic knowledge societies. By being MIL competent, citizens:

1. are able to access, evaluate, produce, and disseminate information and media content using appropriate technology;
2. understand and know their information and media rights and their responsibility for demanding free, independent, and diverse information and media systems;
3. understand the role and functions of information providers and media, as well as the conditions under which these functions can be performed; and
4. are able to create knowledge and share it widely as well as know how to engage with information providers and media for self-expression and democratic participation.

At UNESCO, a transition from an individual to an integrated literacy approach was influenced by experience of working in close cooperation with international and national partners and experts on the implementation of concrete projects, carrying out research, being engaged in a dialogue with policy and decision makers, civil society, and industry representatives. This transition was influenced also by four declarations: the Prague Declaration "Towards Information Literate Societies" (2003), the Alexandria Proclamation (2005), the Fez Declaration on Media and Information Literacy (2011), and the outcome of this conference was the Moscow Declaration on Media and Information Literacy (2012). It also coincided with the United Nations Literacy Decade and was reinforced by the International Federation of Library Associations and Institutions (IFLA) Media and Information Literacy Recommendations (2012).

UNESCO mainstreams Media and Information Literacy within its programme[16] and projects,[17] working in close collaboration with other professional organizations, communities of practice, and individual experts. Below are few examples illustrating UNESCO's work in this area:

- The *"Media and Information Literacy Curriculum for Teachers"* published in 2011 serves for wider discussions and capacity building of teachers to apply MIL in education;
- The *Media and Information Literacy Indicators* currently being developed by UNESCO for the assessment of country preparedness

[16] http://www.unesco.org/new/en/bureau-of-strategic-planning/resources/medium-term-strategy-c4/ (cited on 15 February 2013).

[17] http://www.unesco.org/new/en/communication-and-information/media-development/media-literacy/mil-as-composite-concept/ (cited on 10 February 2013).

will help the introduction of MIL at national levels and provide a basis for the measurement of individual competencies of teachers in service and in training;

- UNESCO is preparing a model *Guidelines for Articulating MIL Policies and Strategies*, which will encourage the development of national information and media literacy policies by the Member States;
- UNESCO, together with the United Nations Alliance of Civilizations, is establishing a *University Network on Media and Information Literacy and Intercultural Dialogue* (MILID) and celebrates a MILID Week.
- UNESCO is working on an interactive online course on *Media and Information Literacy*; and
- UNESCO is organizing a *Global Forum for Partnerships on MIL* and a *Pan-African International Conference on MIL* in June-July 2013.

The International Conference on Media and Information Literacy in Knowledge Societies in Moscow, Russian Federation, held on 24–28 June 2012, has initiated a broad dialogue on the conceptualization and application of MIL within knowledge societies. The Conference was organized under the leadership of the Russian chair of the Intergovernmental Council of the Information for All Programme (IFAP) in close cooperation with UNESCO's Communication and Information Sector and the Intergovernmental Information for All Programme, as well as the International Federation of Library Associations and Institutions (IFLA). Moving from the theoretical to the practical and empirical aspects of MIL, the conference outlined the strategies articulated in the Moscow Declaration. Moreover, the event also provided a unique opportunity for more than a hundred professionals, researchers, and other stakeholders from more than forty countries to share their experiences and discuss new challenges.

Promoting Media and Information Literacy Worldwide Through Productive Partnerships

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In 1974 Paul Zurkowski, former president of the US Information Industry Association, addressed the need for citizens to become information literate in order to survive and compete in an emerging information society[1]. Nearly forty years later, his words remain just as relevant as our focus shifts to building knowledge societies in an increasingly complex and rapidly developing information and technological landscape. In the early 2000s, the Prague Declaration: Towards an Information Literate Society[2] (2003) and the Alexandria Proclamation on Information Literacy and Lifelong Learning[3] (2005) capitalised on the significance of information literacy to achieve sustainable human development and to build participatory and inclusive societies in the 21st century and beyond. Regarded as an integral part of the basic human right of lifelong learning, information literacy is described as crucial to achieving the United Nations' Millennium Development Goals and ensuring respect for the Universal Declaration of Human Rights.

Another declaration later on, the Fez Declaration on Media and Information Literacy[4] (2011), calls attention to increasing our understanding of the connections between media and information literacy: "[…] today's digital age and convergence of communication technologies necessitate the combination of media literacy and information literacy." The International Conference on Media and Information Literacy for Knowledge Societies responds to this need by addressing media and information literacy in a more holistic way in its programme. The resulting Moscow Declaration on Media and Information Literacy[5] brings together media and information literacy perspectives both in its conceptualisation of the term and in the actions proposed to promote media and information literacy for knowledge societies.

[1] Woody Horton, F. (2008). Understanding Information Literacy: A Primer. Paris: UNESCO, p.1.
[2] http://portal.unesco.org/pv_obj_cache/pv_obj_id_0106E60518A5E4524F2E44C80D3B09C654C80000/filename/PragueDeclaration.pdf.
[3] http://portal.unesco.org/ci/en/ev.php-URL_ID=20891&URL_DO=DO_TOPIC&URL_SECTION=201.html.
[4] http://www.unesco.org/pv_obj_cache/pv_obj_id_52BCF993E8693D873C4E63289DD1A389189F0200/filename/Fez%20Declaration.pdf.
[5] http://www.ifla.org/files/assets/information-literacy/publications/moscow-declaration-on-mil-en.pdf.

Media and information literacy is the cornerstone of knowledge societies. Enhancing the knowledge, attitudes, skills and practices that this term encompasses is dependent on partnerships beyond geographical borders, across sectors, institutions and professional groups. Productive partnerships are a condition sine qua non to remove the barriers to open, plural, inclusive and participatory societies. As the global voice of the library and information profession, the International Federation of Library Associations and Institutions (IFLA) advances the interests of library and information associations, libraries and information services, librarians and the communities they serve throughout the world.[6] The federation endorses the principles of freedom of access to information, ideas and works of imagination and freedom of expression embodied in Article 19 of the Universal Declaration of Human Rights. IFLA is committed to universal and equitable access to information, ideas and works of imagination for the social, educational, cultural, democratic and economic well-being of individuals and communities. Delivery of high quality library and information services helps guarantee that access.

The IFLA Information Literacy Section[7] was established in 2002 with the aim of fostering international cooperation to advance the information literacy agenda. UNESCO has been a much appreciated long-term partner in IFLA's endeavour to support information professionals and other stakeholders in promoting information literacy for all kinds of citizens, in all types of libraries and information institutions, for all social sectors and in all geographical areas. IFLA and UNESCO have had a history of collaboration since IFLA initiated formal consultative relations with UNESCO in 1947. A number of IFLA policies have been endorsed by UNESCO. These policies continue to have a great impact at a global level and contribute to the development of frameworks for high-quality library and information services.

UNESCO established the Information for All Programme (IFAP) in 2000 as a response to the challenges and opportunities of the information society. This intergovernmental programme pledges to harness the new opportunities of the information age to create equitable societies through better access to information. One of the five priority areas of IFAP is information literacy. This has led to a number of joint initiatives with the IFLA Information Literacy Section. For instance, IFAP and IFLA have engaged in the task of drawing up international recommendations on media and information literacy. In April 2012, IFLA Media and Information Literacy Recommendations[8] were endorsed by the IFAP Intergovernmental Council in Paris. The recommendations were prepared in consultation with UNESCO and IFAP colleagues, as well as media

[6] IFLA Statutes: http://www.ifla.org/files/assets/hq/ifla-statutes-en.pdf.
[7] http://www.ifla.org/information-literacy.
[8] http://www.ifla.org/publications/ifla-media-and-information-literacy-recommendations.

and literacy experts from around the world. Further collaborative work on international recommendations on media and information literacy is in progress.

The International Conference on Media and Information Literacy for Knowledge Societies in Moscow is an excellent example of productive partnership. It stems from UNESCO, IFAP and IFLA's common goals to empower citizens in accessing, using, creating, sharing and preserving information, regardless of the media, form or format in which it may be conveyed. With the beautiful Russian woodland as a background, these long summer days have granted us the opportunity to build a stronger foundation on which to lobby for and implement media and information literacy activities worldwide. The conference has gathered expertise from forty countries. We have gained a better understanding of the concept of media and information literacy, and of the ways it correlates with other literacies. Key challenges have been identified. Policies, professional strategies and measures to improve international, regional and national responses to media and information literacy issues have been discussed. The diversity of professional groups and government and civic society institutions at the conference have raised a common awareness of the significance, scale and topicality of the tasks of media and information literacy advocacy among information, media and educational professionals, government executives, and the public at large.

Intense work on the development of media and information literacy indicators at the conference has laid the ground for new collaboration opportunities to contribute to this important UNESCO project. Equally intense work at the conference has resulted in the Moscow Declaration on Media and Information Literacy. The declaration reminds us of the very challenging way ahead and gives us a sense of direction. It urges us to commit to actions and to explore new partnerships. Finally, it reaffirms our conviction that media and information literate citizens are what open, plural, participatory and sustainable knowledge societies are made of.

Media and Information Literacy: Conceptualization Within Knowledge Societies

(M)IL and Its Kind

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In our modern society people need knowledge to survive, to develop, to relax, to perform tasks, make decisions and solve problems. They need knowledge on themselves, their physical environment and their social environment. They can find this information in their information space via 3 processes: Observation, Conversation and Consultation.

Observation refers to the ability to look around and observe objects and processes, this is fact-finding by experimenting and authenticating. If I want to know if it's raining and I have to take an umbrella, I look out of the window and make a decision.

Conversation refers to the process in which we ask other people: family, friends, colleagues and experts for the information we need, face-to-face, by phone, by e-mail. Wondering if I have to take an umbrella, I can call my sister and ask her. She can look out of the window and decide. Perhaps she can even inform me better, because she has heard the weather forecast.

Consultation refers to the process in which we consult information professionals working in libraries, archives, museums, information institutes and information departments in organisations. Due to technology push and users demands long existing walls and traditions between them are disappearing and we call them 'memory institutions' now. In this case we are talking about stored or recoded information.

All three processes take place in the 'real' world where we can touch objects and the 'virtual' world, that we can only access with digital technology.

Each of us has a personal information space where we can find relevant information resources. It's created automatically when we are born and it develops and expands during our lifetime through our learning and working carrier, our social contacts and so on. When we grow very old the information space will shrink again.

However, there are barriers that impede or can even block successful access to the necessary information. Till now I distinguished four types of potential barriers that are based on interdependencies between people: economic, political, affective and cognitive. Today I add a fifth one – personal characteristics.

The economic barrier refers to the fact that people are dependent on the production and the distribution of scarce resources including food, clothing and housing. Since 1970s information is considered as the fourth production factor, which functions as the driving force of the economy. This means that supply and demand factors are applicable to the production, use and control of information and the technical and social infrastructure that is needed for access to information and its dissemination. Information costs money. As wealth is unevenly spread access to information is spread unevenly as well.

The political barrier refers to people's need to protect themselves against physical constraints and aggression of others. To obtain this protection a regulation of violence is needed whereby specialists can enforce power entitled to them through legislation. Hereby the law and order of a society is formally stipulated. These rules have reference to all relations people have with one another. For example, laws regarding information are the regulation of copyright, legislation on archives, access to government information and freedom for the press. These forms of legislation can be seen as political regulation through which access to information can be controlled.

The affective barrier refers to the fact that people have feelings for one another. People need one another for affection, love and support. Friendship and emotional relations are not limited only to other people, but also include objects and organisations that are appropriate to a person's culture. Therefore information sources and channels such as books, CDs, DVDs, television and Internet are also included. This liking has reference not only to the information media and channel, but also to the information type itself.

The cognitive barrier refers to the fact that people are dependent on one another because they learn from one another. People create knowledge and distribute it between themselves. Before the development of writing, verbal communication was prevalent. Writing and printing made it possible for information to be disseminated regardless of borders of time and space. Learning from one another happens in diverse ways and is not limited to education at school. The scope and content of what is taught to people depend on their social position and societal relations. An illiterate farm worker in the 18th century was not as affected by his or her illiteracy as an illiterate person in the first decade of the 21st century in Western society.

The personal characteristics barrier refers to the fact that people are of equal value, but are not all the same. They differ in gender, age, social environment and so on. And – which is relevant for this presentation – they can differ in abilities.

Those who are more capable to satisfy their information needs in an effective and efficient way, are more capable to survive and develop themselves than those with less advantageous traits. After Charles Darwin, "...it is not the strongest of the species that survive, nor the most intelligent, but the one ***most responsive to change***…" Therefore today there is a strong need to be 'Information Literate'.

If we look at a long-term development over the ages we can see three developments in what I call the informatisation process: an ongoing control over natural forces (technization), an ongoing social and technical differentiation, an expanding of interdependency networks (globalisation). What effects do they have for people?

- Exponential growth of information, information media, information channels and information services.
- Growth of technology, tools and applications to retrieve, process and disseminate information.
- Changes in communication patterns and behaviour.
- Being 'Connected' 24/7.

What we see now is an ongoing working in the cloud. No longer do we carry our information with ourself, printed, on CD, DVD or a stick. The only thing we need is some device, from a cell phone to a tablet, electricity and a subscription of a provider. But that all needs money. And in how many 'clouds' are we working? Do we have separate ones for work and entertainment?

Increasing complexity of environment leads to a need for more skills to select, retrieve and process information.

The originator of the term "information literacy" was Paul Zurkowski. He first used it in 1974 in a proposal to the US National Commission on Libraries and Information Science "The Information Services Environment: Relationship and Priorities" (Related paper no. 5). At the time he coined the term he was President of the Information Industry Association. Zurkowski heads his prologue "The Goal: Achieving Information Literacy" and then goes on to state: "*We experience an overabundance of information whenever available information exceeds our capacity to evaluate it*". He claims that this is a universal condition and lists three reasons: 1) information seeking differs according to time and purpose; 2) there is a multiplicity of sources and access routs resulting in a kaleidoscopic approach taken by people; 3) more human experience is being dealt with in information equivalents. Talking about the commercial shape of publishing, Zurkowski uses the analogy of an information "prism" gathering "light" (ideas and concepts) and then performing a variety of "refracting" functions (editing, encoding, printing, microfilming, arranging, etc.) to produce a spectrum of products, services and

systems to meet the kaleidoscopic needs of the user. “People trained in the application of information resources to their work can be called information literates. They have learned techniques and skills for utilizing the wide range of information tools as well as primary sources in molding information solutions to their problems” (Zurkowski, 1974, p. 6). It is important to remember that Zurkowski is talking about the access and dissemination of information in the workplace as an economic benefit and necessity, calling on the National Commission to commit to a major national education programme to achieve universal information literacy by 1984.

In 1989 the American Library Association defined information literacy as “a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information in an ethical way”.

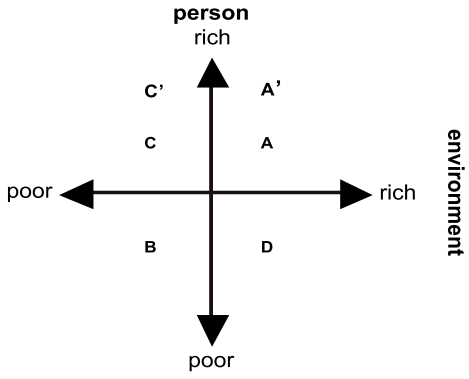
The term got its further development in later documents. The 2003 Prague Declaration was called “Towards an Information Literate Society”, thus a connection to the information society was made. The 2005 Alexandria Declaration “Beacons of the Information Society” linked information literacy to lifelong learning. At the moment we are working on UNESCO/IFLA Recommendations on Media and Information literacy. I have drafted the first version and it’s now under revision.

We can describe an environment as information rich, when there is the possibility to access all kinds of information resources and channels and memory institutions. The opposite is information poor.

An information rich person is an information literate person able to use the variety of information in an efficient and effective way. He/she is able to learn life-long and to develop him/herself. An information poor person cannot do that.

This gives us theoretically four situations.

Information Rich – Information Poor



"A" – an information rich person in an information rich environment. In this situation a person is able to use the channels to satisfy his/her information needs.

"B" is the opposite: an information poor person in an information poor environment. This person is not even able to use the very few information resources that might be available.

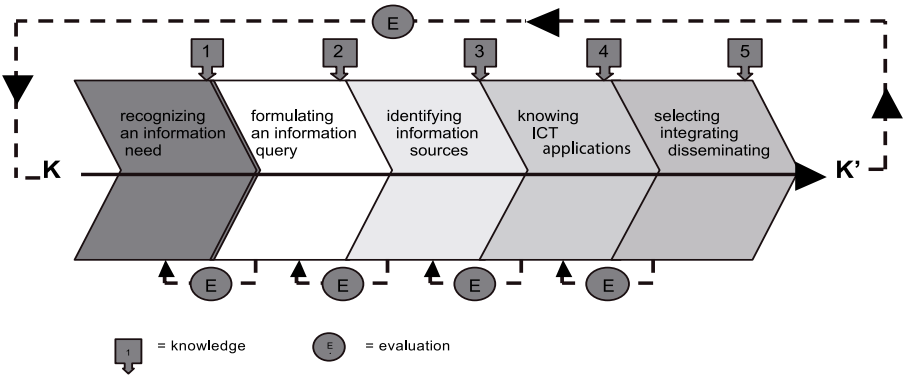
"C" – an information rich person in an information poor environment. I can illustrate this situation by an example from my own experience. Last December I made a boat trip along the Amazon river. We visited some places where there was no access to whatever source, so that was a week without Internet. In such cases lack of resources does not let a person to apply his skills and competences.

"D" – an information poor person in an information rich environment. That person can learn to become information literate and use the possibilities adequately.

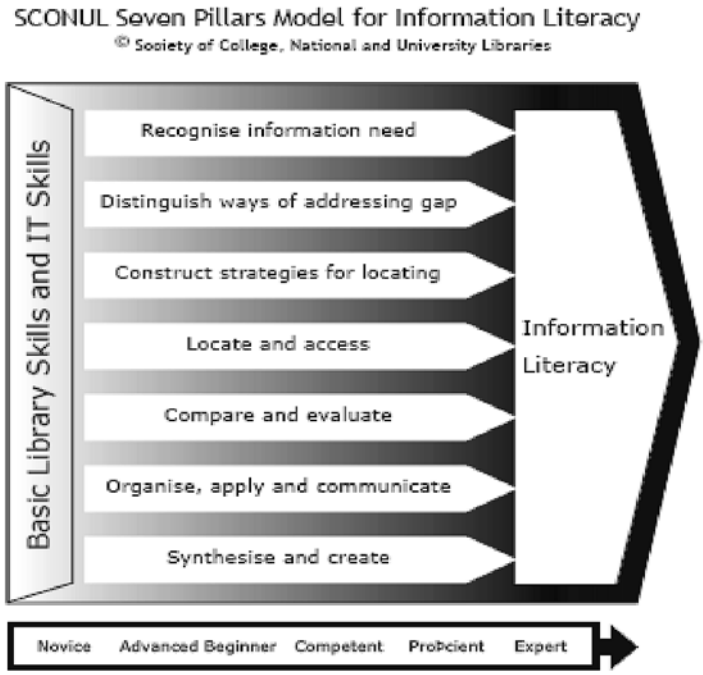
And what happens now? Our societies are developing. The complexity and possibilities expand. So the environment is becoming more 'rich'. Person C and person A are still 'information rich' because they learned how to develop themselves. And what about B and D? Unfortunately the gap between them and A and C has grown significantly.

Next to many definitions, there are many models. I developed one many years ago. It shows how a person comes from Knowledge moment K to K' and includes several aspects:

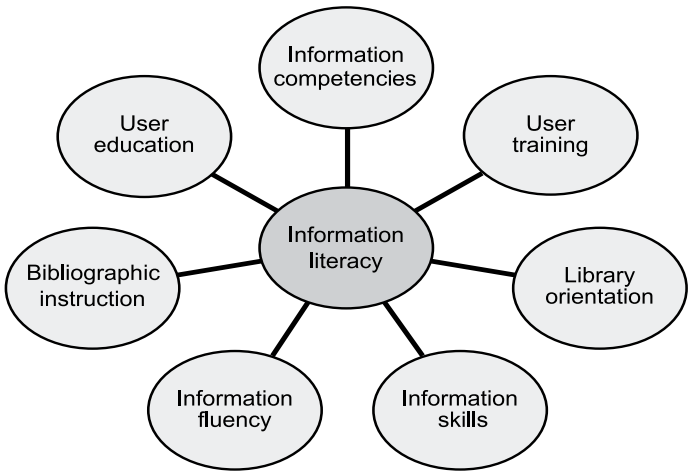
1. Recognition of an information need.
2. Translation of the information need into a query.
3. Identification of a suitable information source.
4. Application of knowledge of relevant ICT.
5. Selection, integration, dissemination of the information found.
6. Continuous evaluation.



There is another model to be mentioned – the British SCONUL 7 pillars of information literacy, first published in 1999 and updated and expanded in 2011.



There are a lot of terms sometimes used synonymously with IL. For me IL so far was an umbrella concept and all other terms could be considered components of it.



Information fluency – mastery of information competencies.

User education – global approach to teach information access to users.

Library instruction – focuses on library skills.

Bibliographic instruction – user training on information search and retrieval.

Information competencies – compound skills and goals of information literacy.

Information skills – focuses on information abilities.

Already in 1995 Harris and Hodges found 19 terms related to IL: Adult literacy; Advanced literacy; Basic literacy; Biliteracy; Community literacy; Computer literacy; Critical literacy; Cultural literacy; Emergent literacy; Family literacy; Functional literacy; Informational literacy; Marginal literacy; Media literacy; Minimal literacy; Restricted literacy Survival literacy Visual literacy Workplace literacy.

I think today I can find many more, including: Civic Literacy; News Literacy; Information Fluency; Health information Literacy; Emergent Literacy; Transliteracy; Copyright Literacy; Century Skills; 21st Century Information Fluency; Augmented Reality Literacy; Visual Literacy; Mobile Information Literacy.

Today IL is more and more often mentioned in the context of a new complex term – Media and Information Literacy. Several expert meetings were organised by UNESCO on various aspects of MIL, namely the one in Paris in June 2008, dedicated to the Teacher Training Curricula for Media and information Literacy, and the Bangkok meeting in November 2010 on Media and Information Literacy Indicators.

What is Media Literacy? According to Wikipedia, it is “a repertoire of competences that enable people to analyze, evaluate, and create messages in a wide variety of media modes, genres, and forms”.

Knowing what Information Literacy and Media Literacy mean, how can we define MIL?

We should remember that it is a **container** concept and a **dynamic** concept. Being ‘**MIL**’ is a **competence**:

- a critical ***Attitude*** about:
  - What am I doing?
  - What for am I doing this?
  - With what am I doing this?

- ***Knowledge*** about:
  - the organization and quality of information resources and channels;
  - acquiring access to information.
- ***Skills***: being able to use required skills and technology.

Today MIL is an integral part of Lifelong Learning.

MIL is a competence that is learned in the socialisation process:

- 'By doing'.
- Formal education.
- Informal education.

Especially the 'technical' part of the competence is learned by the younger generation in 'trial and error'. However becoming MIL cannot be learned in a distinct subject. Is has to be Integrated in any subject. This needs coordination between 'teachers' & 'librarians' at any educational level.

In each subject attention should be given to:

- **Information problems:** what are relevant problems in the subject?
- **Information questions:** how are questions in this subject formulated?
- **Resources:** what specific information resources are relevant for the subject?
- **Selection**: which of the identified sources are relevant?
- **Process**: what specific communication tradition are there regarding presentation, storing and dissemination?
- **ICT**: what specific skills are needed to use resources and applications ?
- **Evaluation**: Does each step indeed lead to obtain the desired information and satisfies the information need?

Aspects of MIL should be given in such a way that they reflect the needs of the person at that time, taking in account gender, age and context. This asks for an 'ongoing learning line' and 'Learning moments' that comprises the whole education period and goes on in Life Long Learning.

Although there is a widespread consensus on what MIL should be, there are still much variation in practice and orientation. But if we look at global trends we can see that IL was originated in 'industry', and later on went into (school) libraries. The differentiation of concept lead to a confusing variety of terms. IL is still there, more and more ´integrated´, but we witness a lack of interest of 'management' and reluctance of 'teachers'. These problems need to be solved.

The Design of Media and Information Literacy

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Introduction

This keynote paper outlines a model which can be used to understand, and synthesise, the different ways media and information literacy (MIL) is conceived and then practiced. This investigation is essential if we are to really create a 'Knowledge Society', as foreseen in the title of this conference. Knowledge is flexible, adaptable and constantly evolving, and to engage with it requires a *mélange* of different approaches to the retrieval, processing and communication of information; and facility with a range of media. I propose that at present, the field is characterised by more singular approaches, which each deal with MIL in partial ways: either by separating out different, but complementary approaches, or by dealing with media and information literacy separately.

The model presented here – the *triadic model of information* – is an attempt at the necessary synthesis. It takes as its starting point a chapter by Bruce, Lupton and Edwards (2007), which presented 'The Six Frames of Information Literacy' as a way of highlighting the variation implicit in the field. The triadic model builds on the work of these authors, strengthening their conclusions by incorporating the ideas into a three-sided framework that connects these frames to the philosophy of social science (Fay, 1975), critical theory (Habermas, 1984; 1987), digital inclusion (Seale, 2010) and communities of practice (Wenger, White and Smith, 2009). It also extends the discussion into the field of media literacy as it combines with information literacy.

These ideas were first presented, in embryo, in chapter 2 of *Information Obesity* (Whitworth, 2009), and subsequently used in other papers and chapters (e.g. Whitworth, McIndoe and Fishwick, 2011; Whitworth, 2012). A book is in preparation which will outline the model in detail (forthcoming in 2013).

After the model has been presented, the paper applies it to an analysis of a range of MIL interventions, including tutorials, courses and a project in community education.

The triadic model

Views of social science

Information, and the media used to construct and disseminate its messages, are not fixed and predictable entities, like machines and energy. The meaning

and significance of information and media are negotiated by individuals, communities, organisations and society as a whole, and their effective use therefore involves practices that are essentially social. This means we can – and must – apply principles of social science to understanding what MIL is, how it has developed, who benefits from it and who may be challenged by it.

Fay (1975) explores the development, and implications, of different types of social science (see also Burrell and Morgan, 1979). He reviews:

- *positivist* views of social science, in which the orientation is toward developing macro-level understandings of trends and influences on the social sphere, in order that these can ultimately be engineered to bring about desired goals;
- *interpretivist* views, oriented toward the micro-level interpretation of individual, subjective preferences, feelings, emotions, histories, and so on;
- *critical* views, oriented to the meso-level, the analysis of power relations within organisations and communities, and the ways these might be transformed through political and social activity.

Broadly, the three domains of the triadic model correspond to each of these perspectives. Within each, information, media and the ways in which these are constructed and used differ. The *validation* of information takes place against different types of criteria which, respectively, are *objective*; *subjective* and *intersubjective.*

The objective domain

The objective domain is linked to positivist views of social science. Positivism seeks objectivity through the application of scientific method, and the privileging of this form of value over others such as subjectivity, philosophy, negotiation, and so on (Whitworth, 2009, p. 110). Scientific method is, obviously, a very powerful way of validating found information, through testing hypotheses against observations in ways that make these conclusions replicable, reliable and potentially refutable. Thompson puts the case well:

We are lucky to live in an age in which the techniques available for evaluating the truth or falsehood of claims about science and history are more reliable than ever before… (Thompson, 2008, p. 1)

The tests applied to empirical statements are, for the most part, impressively rigorous, and they are applied by a scientific community that… is made up of individuals from diverse ethnic, religious and cultural backgrounds… from time to time scientists arrive at the wrong explanation of natural phenomena; but these mistakes are usually rectified by later hypotheses that better fit the data. So, when scrupulous researchers overwhelmingly agree that a particular claim is a statement of fact, the probability that they are right is extremely high (ibid, p. 28).

Thus, the insights of science should have universal application, and be valid regardless of one's personal beliefs or culture. This is not a problem-free declaration, as I will explain below. But, nevertheless, the end goal of such scientific enquiry is to produce generically-applicable laws, though they will always be open to refutation should new evidence come to light.

This domain can be seen in the information literacy field when learners are instructed to conform to a range of criteria for making judgments about information that have been established through processes that are external to the student. 'Good practices' become codified into standards and rules. Examples include (but are not limited to):

- administrative regulations, e.g. regarding citation, anti-plagiarism;
- laws, e.g. copyright;
- generic standards and guidelines for information literacy, such as those of ACRL, SCONUL;
- good academic practice, e.g. the importance of scientific method, citing journals rather than Wikipedia, etc.

The frames of IL in play here (Bruce *et al.,* 2007) are the *Content* and *Competency* frames. Media literacy is less often conceived in these terms but nevertheless, it is invoked when students are taught about issues such as the laws of defamation (and how to avoid it), regulations on media ownership in particular jurisdictions, and so on.

Work in the objective domain is oriented to the creation of effective users of information. Such users must be aware of how, for example, scientific method helps guard against subjective hunches and untested claims becoming part of the shared stock of information. There are entirely legitimate reasons to respect intellectual property, avoid plagiarism, and learn to conduct an effective search of a database. Thus, as with any other area of expertise, within the objective domain reside basic foundational skills, and these can be taught in a relatively generic way.

It is the argument of writers such as Thompson (2008) and Keen (2007) that neglect of the objective domain is the principal cause of what they see as the *pathology* of information processing that Thompson calls 'counterknowledge' and what Keen sees as a simple lack of quality in the online sphere. Keen, particularly, laments the loss of effective *filtering* in the Internet age. The notion of filtering is an important one for the present discussion. In essence, it is different views of filtering – objective, subjective, intersubjective – that I am trying to capture. In this domain, filtering is supposed to be done by a learner in accordance with these generic criteria of validity.

But we cannot adopt generic rules uncritically (Egan 1990, pp. 143-144). To take a statement from a credible source as 'true' and accept it without question

is, in the end, as undesirable a stance as ignoring the claims of 'reason' altogether. Paradigms can form (Kuhn, 1970), which create resistance to any challenges to accepted knowledge, despite evidence to the contrary. There are many value judgments, derived from positivist and objective principles, which may stand in opposition to individual and group morality (should one abort a baby which medical science has 'proven' will grow up more likely to develop heart disease?). In the social field, Fay (1975) laments that the over-application of positivism leads to the notion of 'policy science' becoming dominant: and that individuals become simply the passive recipients of policies and practices designed, implemented and controlled by others (see also Carr and Kemmis, 1986). And the relevance of any given piece of information cannot be assigned in advance, but must in the end be determined by a user (Saracevic, 2007).

A highly positivist, objective view of MIL is oriented only to effective, legal retrieval of information and the use of certain media to do so. In media literacy this might also emerge when students learn how the media can be used to manipulate messages and construct public opinion: but not in a critical sense, rather in a conformist sense – that is, learning how manipulation can be undertaken in order to go on and engage in such manipulation. That is, 'media literacy' becomes the means by which a learner becomes a more skilled media manipulator.

A purely objective MIL could therefore be seen as an extension of the drive to develop effective information systems, which originated with Vannevar Bush (1945) and other colleagues working in information science: and ultimately, to use found information to control communication and disseminate propaganda. Positivism in its pure form is invoked with the aim of establishing rules that can help make predictions and, ultimately, engineer these contexts to meet specified ends. Thus, a positivist MIL:

would turn us all into information processing machines, working on the assembly lines of the information society, uncreative, mechanical, following procedures designed by others and not expected to question what we know (Whitworth, 2009, p. 113).

It is therefore essential to explore the other domains, and see how they support, but are also distinct from, the objective domain.

The subjective domain

The subjective domain of information processing is linked to interpretivist views of social science. It is the domain in which we assert personal, subjective judgments over found information, based on our unique configuration of factors such as background, personality, portfolio of skills, temporal and spatial context, emotional state (Kuhlthau, 2005), and so on. It is where we learn as individuals: not conforming to rules, as in the objective domain, but *informing* ourselves of new ideas, ways of thinking, approaches, etc.

This notion of a personal configuration of resources built around, and by, the learner, accords with Luckin's model of the 'ecology of resources' (Luckin, 2010). Ecologies contain people, tools, knowledge, information, and other environmental characteristics. An ecology is, in principle, infinite in scope, but in order to make resources manageable, various filters come into play. In the subjective domain, these filters are constructed by a learner, reflecting on their own needs, preferences and so on, and making selections accordingly. Ideally, this should be done in a self-aware way, the decisions made consciously and kept under review.

There is an immense, chaotic diversity of possibilities here, and the clear danger of relativism: Thompson draws attention to the dangers of a stance, exacerbated by the rise in Web 2.0 communication technologies, which he expresses as "If it's true for me, it's true" (Thompson, 2008). However, subjectivity can be understood, or at least interpreted, both by the individual in a self-reflective way, and by others, using techniques developed in interpretivist social science. The frames of IL – the educational means by which we understand the values in play here – relevant at this level are the *Learning to Learn* and *Personal Relevance* frames (Bruce *et al.,* 2007). Through work in these frames the individual can be helped to see their learning not as something which happens passively, or randomly, but as something they can learn about (metacognition), and thereby direct, sharpen and generally enhance. Media literacy, considered from the subjective point of view, would involve learning how to effectively use a range of media for one's own learning, discern quality as it varies between media and direct attention to particular resources depending on need and context.

The two domains discussed so far, when combined, lead to the 'study skills' approach to information practice. Effective learners are expected to have an understanding of the range of resources and media which come into play in their own personal learning environment, and to use these resources and media to optimise this environment and sustain it.

The subjective domain is clearly essential. The pathology of information processing which comes into play without it is 'groupthink' (Janis, 1972): an inability to question what one is told, to always follow the herd, annul one's critical and creative faculties. The learner would not be engaging at all with the creation and filtering of their own ecology of resources, and all relevant decisions would be being made by others, either in line with formalised rules (the objective domain) or 'peer pressure' and other group-based strategies (the intersubjective domain).

Nevertheless, the subjective domain has problems of its own. Often, learners lack the necessary self-awareness to reflect on their own needs or cognition: Loughran (1996), amongst others, claims this is due to pedagogical

problems that spread throughout the whole education system. There is also the phenomenon of *cognitive bias* to contend with. There are known distorting tendencies within the information processing architecture of the human brain: for example, our tendency to look for patterns, to ignore information if it challenges our prior beliefs, to believe that we know more about other people than they know about us, and many more (see Fernandez, 2010 for a comprehensive list). Indeed, it is because of such tendencies that the structures of scientific method were developed; to guard against the possibility of subjective hunches and speculations being accepted into the stock of scientific knowledge.

The intersubjective domain

The main limitation to the common 'study skills' approach to IL is its neglect of the meso-level; that is, the level of organisations, communities and networks. The interaction between individuals and information, and how these individuals come to understand, and combine, micro-level (personal) and macro-level (generic) criteria for validating information, is important. But at the meso-level, there are processes which shape:

- the individual's subjective view of their learning needs and the resources available to them; and
- the objectives, rules and processes to which they are expected to conform.

Rules of information processing are, largely, not 'givens': these *validity claims* are social constructions (see Habermas, 1984/1987). There are many ways in which we orient our actions and judgments against collectively-determined criteria. Understandings of ethics, morals, technology, the assignment of financial value, the meanings of words and phrases – all exist in the spaces between people and, thus, are intersubjective.

As Blaug (2007) explains, cognitive biases can also be exploited by organisations, within which certain 'cognitive schema' or ways of thinking can be 'pushed' at participants, to shape their activity and work, and have it contribute to the maintenance of hierarchical power relations in the organisation. An example would be if an organisational strategy document was used as a way of determining criteria against which all information processing decisions should subsequently be made. This could have the effect of nullifying subjective decision-making, and promoting groupthink.

The neglect of the intersubjective domain comes about, in part, because of difficulties with measuring collective value judgments. Saracevic (2007, p. 2134) draws attention to this, pointing out how, in early studies of IS, the question of the consistency of relevance judgments across a group of

judges was a 'Pandora's box'. Members of a group, even where this group could be expected to share, in a general sense, criteria for judging relevance (that is, they were an otherwise homogeneous group and/or shared a context, like a work setting), could not agree on the criteria for selecting relevant information even after they had been presented with the selections of other members of the group and asked to review their own selections in light of their colleagues'. The result, to this day (*ibid*) has been a reluctance to use more than a single judge in any study of how information is selected. Nevertheless, groups, communities and organisations *do* affect the way information is perceived, and MIL work in the intersubjective domain is oriented towards raising awareness of these meso-level processes and how they affect work in the other domains.

In Bruce et al's model, the frame of IL in which these understandings are developed is the *Social Impact* frame. Here, the interest is in "how IL impacts society, in how it may help communities inform significant problems" (Bruce *et al.,* 2007, pp. 41-42). This suggests that the intersubjective domain is the domain in which transformation takes place, driven not just by individuals informing themselves about an issue but by the subsequent communication of the results of their learning. Hence, the benefits of attention to the publication and dissemination of information, as part of a holistic approach to IL; and also the critical view; the need for an information literate person – and community – to understand the way decisions about ICTs are made, discourse shaped in the media, censorship occurs, open information becomes closed, profit is made, etc.

This frame is little developed in most IL education. Andretta (2010) conducted a survey of IL practitioners in 2007, asking them which frame(s) of IL they believed were promoted by their institution, and not a single respondent (from 124, given two answers each) believed that the social impact frame featured in their IL teaching. However, the study of the intersubjective domain is more developed in media literacy: specifically, in critical media literacy. Kellner and Share (2007) so far as to call for such study to be considered foundational. The work of organisations such as ACME (see the discussion of their web site, below) attempts to manifest these ideals in practice. But critical media studies must also contend with its frequent denigration in the popular press and the educational establishment, which see it termed a 'soft subject', indeed, evidence of the 'dumbing down' of higher education (Whitworth, 2009, p. 81). However, an understanding of hegemony (Gramsci, 1971) encourages the view that such denigration is a function of how critical media literacy encourages a more critical view of the products of the media industries.

Bruce et al's 6th frame, the *Relational* frame, is also transformational as it brings the other five frames together, driving learners to understand the relationship between all three domains of value. The domains are in a dynamic

interrelationship with one another, and a holistic understanding of the whole MIL field involves an appreciation of the value of *all* the domains: not privileging one over another, but understanding how an informational process, such as the research process, shifts constantly between the three as ideas are developed, tested in collaboration with others, and enter (and leave) the accepted 'canon' of a discipline. This is illustrated, with respect to the academic research process, in Whitworth (2012); see also the discussion of MOSI-ALONG below.

Summary of the triad

View of social science	Positivist	Interpretivist	Critical
Forms of value	Objective	Subjective	Intersubjective
Basis of value	Scientific	Personal	Negotiated
Emphasis	Consumption	Learning	Communication
Level	Macro-level	Micro-level	Meso-level
Practice	Generic	Situated	Transformational
Structures of support	Scientific method, other rules (e.g. plagiarism)	Individual cognition	Organisations, technologies, cultures, learning communities
Frames of IL	Content, competency	Learning to learn, personal relevance	Social impact, relational
Related pathology	Counterknowledge	Groupthink	Relativism
Key word	Conforming	Informing	Transforming

A holistic Media and Information Literacy can be defined as the knowledge, attitudes, skills, and practices required to access, analyse, evaluate, use, create, and communicate information and knowledge in creative, legal and ethical ways. In short, MIL is the sum of educational processes through which we learn about the structures and bases of value within each of the three domains (cf. Whitworth, 2009, ch. 2). Media and information literate individuals can validate found and produced information against a range of generic, personal and context-based criteria. If MIL is taught in ways that address only one or even two of the domains, the related pathologies of the 'missing' domains will come into play in some form, and the quality of found or produced information will be diminished.

There is a risk this might be seen as just another ideal to be appealed to but not reached. Where are the practical strategies? How can it overcome the political and organisational obstacles in the way of becoming institutionalised? The latter question is not dealt with here. The political implications of these ideas are explored mainly in two book chapters (Whitworth, 2007; 2011) but not developed further in this paper. However, the first can be answered by seeing all 'ideals' as tools for analysis, and as in a constant state of negotiation and review by all stakeholders.The model is presented as a way of making these connections more explicit and providing ways to recognise the structures, frames and key principles operating in different ways as we handle information.

Applying the model

Some Media & Information Literacy resources analysed

As an illustration of the application of the triadic model in real-world MIL teaching, let me use it in an analysis of a range of online tutorials presented by universities and other organisations around the world. This analysis is necessarily brief and not systematic, but it hopefully provides an initial insight into the analytical possibilities of the model. All insights are summarised in a table at the end of this section.

The first web site reviewed is 'Søk og Skriv' (Search and Write), developed by the Norwegian School of Economics, the University of Bergen, and Bergen University College (see http://www.sokogskriv.no). This web site is very much based around the 'study skills' approach to information literacy education, and has a strongly subjective approach. The addressee of the web site is the individual student, preparing to write an exam: the very first words on the page 'Task initiation' (which the menu bar implies should be the first page read) are "You are going to write an academic text. In the beginning, you may experience an emotional change from optimism to confusion and doubt." This appeal to the subjective individual is strongly reinforced by the use of 'model' students, of which there are three, whose narratives and perspectives run through the whole site and which other students can use to 'humanise' it. The intersubjective domain is lacking, however. Students are encouraged to talk over their ideas with others – fellow students, staff, librarians, friends and family – but there is then no exploration of the implications of this sharing process. Nor does Søk og Skriv attend to any questions of how different media may alter the usefulness of found information. The IL angle of the web site is strongly developed, but not the ML.

The University of Sydney web site at http://www.library.usyd.edu.au/skills/ is much more objective in tone. The resources are largely aimed at ensuring learners

conform to regulations and guidelines when accessing information. There is some attention to context, with resources presented that are subject-specific, but very little attention to how individual students might make the guidance their own, and none at all paid to intersubjective issues, or to media literacy.

The third web site is http://library.leeds.ac.uk/skills, based at the University of Leeds, UK. This is also a 'study skills' web site, but one that is more comprehensive than Søk og Skriv, including discussion of issues such as time management, listening and interpersonal skills, and the use of social media, which unlike the other two sites mentioned so far give it a more intersubjective angle. Though little attention is drawn to questions of power relations in the construction of information, there is nevertheless more of a sense (compared to the other two sites mentioned thus far) that learners are being helped to understand how their *publication* of information, and use of different media, are essential to their studies; not just the retrieval and evaluation of information.

http://MAdigitaltechnologies.wordpress.com/infoliteracy is a site developed by myself, with support from colleagues at Manchester and the Higher Education Academy (see Whitworth, McIndoe and Whitworth, 2010). As it is my own, I forebear from offering a critique, but draw readers' attention to its explicit orientation around the six frames of IL model, and (particularly in unit 6), the incorporation of media literacy.

Finally, the ACME (Action Coalition for Media Education) web site at http://www.acmecoalition.org has a much clearer interest in media literacy than information literacy. It also does not set itself up as a 'tutorial' site in the same way as the others, though this element of it is still present, particularly on the page of teaching resources. Its resources attend little, if at all, to questions of rules and regulations: though there is some discussion of these (aimed largely at drawing attention to organisations that may be breaking these rules). Nor are readers encouraged to reflect on their own learning processes. However, the critical media literacy angle is explicit, thus, attention is very strongly focused on the intersubjective domain and how media messages can be understood.

A summary of these insights is given in the table below, though I must again remind readers that these are preliminary and in need of corroboration. This is a self-selected sample, designed as a test of the applicability of the model, but not intended as a definitive or generalisable statement about the nature of MIL resources worldwide. Let me also point out that I am not criticising any of these web sites as inadequate – I think they are all good in certain ways. Nor is this an 'objective' review: it cannot be, for one of the sites is my own. However, I hope that it shows, in a preliminary way, how the triadic model can be used as a guide for the comparative evaluation, and holistic design, of MIL interventions in formal education.

Site	Objective?	Subjective?	Inter-subjective?	Information literacy	Media literacy
Sydney	Strong	Weak	Absent	Strong	Absent
Søg og Skriv	Moderate	Strong	Weak	Strong	Absent
Leeds	Strong	Strong	Moderate	Strong	Moderate
MIL for PGs & researchers	Moderate	Strong	Strong	Strong	Moderate
ACME	Weak	Weak	Strong	Weak	Strong

One thing that is apparent is how the sites that are weaker vis-a-vis the intersubjective domain are those weaker on media literacy, while the reverse is true for those sites which attend more to the intersubjective domain. If we accept the statement made earlier – that *information* literacy, as commonly defined nowadays (study skills), largely bases itself around work in the objective and subjective domains, then the triadic model may also show that it is through incorporating media literacy into this typical model that a truly holistic approach – one that works in all three domains (and thus, Bruce *et al*'s 'relational' frame of IL) – can be approached.

A broader project – MOSI-ALONG

MIL should not only be thought of as relevant in formal education, however. The final case study then, which I describe in more detail, shows how the triadic model can reveal the nature of MIL as it develops outside the formal setting.

The MOSI-ALONG project was a partnership between the School of Education at the University of Manchester; the LSEN; Peoples' Voice Media; the Museum of Science and Industry (MOSI); and Mimas. It ran from March to December 2011, with the help of JISC (http://www.jisc.ac.uk), who provided around £55,000 of funding as part of the 'E-Content' strand of their 'Developing Community Collections' programme. The project was set up to define and explore the processes that communities went through in order to produce online content that was developed through informal learning processes, and then enhanced its quality by drawing on the expertise of the formal and non-formal learning institutions which exist around the city – that is, the project partners. This was, in part, a response to the aforementioned criticisms of Keen, regarding the quality of online resources. The MOSI-ALONG project team took the position that communities could learn how to improve the quality of these resources, and that by doing so, they would also be indirectly enhancing their MIL, in all three of the domains of the triadic model. (See Whitworth and Garnett, 2012.)

The main outcome of the project was the Aggregate-then-Curate (A/C) framework developed through the evaluation conducted as the project reached its final stages in the autumn. Briefly, A/C is a model of how social media can enable the creation of community-defined, object-centred and good-quality collections of informational resources. Each stage is a validation of the quality of the stages that precede it.

No.	Stage	Involved parties	Measures of quality or value
1	Identification	Participant	Individual, subjective
2	Initial aggregation	Participant, Community learning champion	Community-led, intersubjective
3	Digital creation	Participant, Digital learning champion (DLC)	Technical, objective
4	Digital aggregation	Participant, DLC	Community-led, intersubjective
5	Sequencing	Participant, DLC	Curatorial, objective
6	Social media aggregation	Social media, DLC	Community-led, intersubjective
7	Accreditation	Many possible organisations	Formal, objective

Community members start with a personal and subjective motivation to produce content (e.g. share images or stories, draw attention to a political issue, etc.). At stage 2 the validation is very informal, usually done by friends or colleagues ('that's a good idea…'). At stage 3, the measures of quality will focus on the conversion of a resource to digital form: that is, if it is a video, is it in focus? Audible? Can the resource be found; has metadata been properly used? Collections of resources will come together at stage 4 (e.g. in the Whalley Range site, discussed further below), and attract the attention of community members, but largely they will still remain within the community. By stage 5, however, other external organisations, such as local government (see below), may recognise their value as resources for learning, and if stage 6 is reached, the resources may 'go viral' and be adopted by communities which see them as relevant but which have no direct connection with the community that originally developed them. At stage 7, the creators of the resources may have their expertise formally recognised, for example, by being offered further commissions, consultancy work, accreditation, funding, etc.

The A/C model is in need of further testing. We believe it has application in the analysis of existing training programmes for community learning champions; and also as the basis for designing further work with CLCs. We also hypothesise

that if any of the stages are skipped, resources will be reduced in quality, but at the moment have done no research to confirm or refute this hypothesis.

I use the model here, however, as an illustration of how the different domains of value interact, combining together to form a notion of 'quality' online content; a judgment made with reference to objective, subjective and intersubjective criteria simultaneously. For example, one resource enhanced by work done in the MOSI-ALONG project was the Whalley Range community web site at http://www.whalleyrange.org. Stages 1–4 are clearly visible in the site and stages 5 and 6 have begun to emerge, which, at least in part, was the consequence of the webmaster adding a Twitter feed to the site and thereby distributing the job of updating the site with local news events. The site is now being used by Manchester City Council as one way they can keep up to date with events in the community, and the webmaster has also been invited to use other media to enhance the learning of the community, for example, local radio. The quality of the material on the Whalley Range site can therefore be judged:

- *Subjectively*: by individuals, finding on the site useful resources for their own learning, and using it as a place to tell their stories and present themselves to others (at the time of writing, the site has 153 individual members). The Twitter feed can also be used by individuals to communicate items of interest and link them to the site;
- *Intersubjectively*: Groups exist on the site which people can join (see http://whalleyrange.org/m/groups/home/); the site also has collective value as a learning resource. Comments and reviews allow for a group judgment to be made about the relevance of particular resources or a group opinion to develop on something like a local event;
- *Objectively*: the site is technically good and usable; resources are findable; metadata has been used; and so on. To some extent, the site has received accreditation from an external body, with a formal learning mandate intended to apply generically (at least across Manchester) – the City Council.

Conclusion

A 'Knowledge Society' is a very dynamic one and those who will succeed in it are those who can adapt. This is because knowledge itself is dynamic, constantly being investigated, tested, developed and refuted. We must learn not just facts and skills, but about ourselves, and about each other: therefore, a media and information literate person must be aware of themselves, and the social relations in which they are enmeshed, as well as about how technologies work and what rules they must follow. The model of MIL presented here is a sketch, but there is plenty of scope to develop it further, and conduct research to determine the impact of MIL teaching as manifested (or not) in each of the three domains.

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An Introduction to Media and Information Literacy

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Defining the field

"Literacy is about more than reading or writing – it is about how we communicate in society. It is about social practices and relationships, about knowledge, language and culture. Those who use literacy take it for granted – but those who cannot use it are excluded from much communication in today's world. Indeed, it is the excluded who can best appreciate the notion of 'literacy as freedom'." (UNESCO, Statement for the United Nations Literacy Decade, 2003–2012).

This statement from UNESCO, which has set the foundation for a new definition of literacy around the world, speaks volumes about the importance of an expanded definition of literacy today. This expanded definition, also known as Media and Information Literacy, includes print, screen based and electronic media and is connected to democratic rights, active citizenship and technological literacy. Media and Information Literacy involves accessing, analyzing, and evaluating the messages and information available to us in the media and information sources that are part of our world today. To borrow from Freire and Macedo (1987), Media and Information Literacy is about critically "reading" the world, as well as "re-creating" the world, as students and teachers engage with media and technologies that are part of their personal, professional and civic lives.

The MIL curriculum, available since 2011, marks a significant milestone in teacher education. Thanks to UNESCO, MIL, which combines the strengths of the traditional disciplines of media literacy and information literacy, now has the attention of the international community, and the need for an expanded definition of literacy has taken centre stage.

Many educators around the world have long advocated for this expanded definition, and for media and information literacy programmes for teachers and students. Colleagues in Toronto, Canada, have stated: "The need to study the media [and information texts] in a critical and coherent way has become increasingly obvious in recent years, as they have come to occupy a central position in our cultural and political life. Virtually all that we know, or think that we know, about the world beyond our immediate experience comes to us through the media. The fact that the media have remained outside the school curriculum at the same time as they have come to dominate so many aspects

of our society, and indeed, our individual consciousness, is a tribute to their power to influence us on levels of which we are unaware. It is not surprising then, that we have come to study the media; it is only surprising that it has taken us so long to start. (Duncan, 1989)

Media and Information Literacy Curriculum for Teachers

At a UNESCO Expert Group meeting in June 2008, the general purposes of a media and information literacy curriculum were identified as:

- promotion of understanding of the functions of the media, as well as their potential and limitations;
- promotion of critical autonomy in the use of media;
- strengthening of the capacities, rights and responsibilities of individuals vis à vis the media;
- facilitation of the access to, and the creative and productive use of, media, information and communication technologies.

The curriculum can be utilized in the development of MIL in any subject discipline, and contribute to a stand alone or integrated programme. In its entirety, the MIL curriculum aims to help teachers explore and understand:

- key concepts of media and information literacy;
- relevant theoretical frameworks, methodologies and conceptual tools;
- strategies for analyzing a variety of media and information texts, examining how these are produced, by whom and for what purposes;
- frameworks for analyzing media messages and their impact on audiences;
- strategies for locating, retrieving and storing information;
- methods of producing media and information texts;
- approaches for developing curricular activities;
- processes of inquiry and problem solving;
- strategies for incorporating metacognition, problem-solving and inquiry-based learning;
- appropriate assessment and evaluation strategies which meet students' needs.

As well, the curriculum explores:

- the capacities, rights and responsibilities of individuals in relation to media;
- international standards within local contexts (Universal Declaration of

Human Rights (UDHR), constitutional guarantees on freedom of expression, and their limitations, such as hate speech, defamation and privacy);

- ethical responsibilities of media (for example, pluralism and diversity as a norm; journalism as a discipline of verification; the role of ethical standards for advertising and broadcast media).

While the curriculum provides opportunities for teachers to become literate in this field, it also provides them with the opportunity to learn about and develop pedagogical approaches and strategies. Teachers learn about the distinction between teaching *through* media and teaching *about* media, exploring strategies that use media and information texts to teach about a variety of topics and disciplines, as well as strategies that can be used to teach about media and information texts themselves, including the ways in which these texts have been created, the messages and values being conveyed, and the way they are used by audiences.

The ideas and approaches offered in the MIL curriculum are not exhaustive, but represent possibilities for exploring the theory and practice underpinning media and information literacy in teacher education. The purpose of the curriculum is to support teachers in their acquisition of MIL competencies for designing and delivering MIL curriculum to secondary students (although there certainly are applications beyond this level).

Curriculum modules

Just as the curriculum is based on an expanded definition of literacy, the definition of "texts" or information sources in the curriculum has expanded as well. Media and information sources in the classroom today include any produced forms of communication. This means that, in elementary and secondary classrooms, teachers and students can explore such information sources as: advertising, websites, videogames, films, t-shirts and billboards.

The conceptual framework for the curriculum is based on three broad programme areas – Production, Text and Audience – which we can imagine representing 3 sides of a MIL triangle:

- Production – This curriculum area explores how a media or information text is produced or constructed, with consideration given to issues of ownership and control, political and economic contexts, as well as individual use of technologies. Key questions for students include: How is the media or information text made? What are the key design elements or technical ingredients that have gone into its production? What is the role or influence of regulation, ownership, and distribution on the information we receive? Can people create their own similar, but unique text?

- Text – This curriculum area involves examining the information, messages, and values being conveyed and how meaning is created through the representation of individuals, groups or issues. Key questions include: What is the story or message being conveyed? How do we know this? What information do we receive about particular individuals or issues? How is this information being presented to us, and to what effect?
- Audience – This curriculum area involves exploring the ways in which audiences are targeted and positioned by media texts, as well as the ways in which audiences respond and make use of interpretive strategies. Key questions include: Who is being targeted? How do we know this? How are they responding to this text? What are the factors that influence this response?

Within the curriculum, eleven modules have been developed in an effort to address dominant themes and issues in the media today, with possibilities for adaptation and expansion as necessary. For each module, strategies and activities which engage the learner in analysis *and* production (or creation) have been developed. Course modules introduce and explore such pedagogical strategies as: textual analysis, simulations, case studies, and media production, and include strategies which support inquiry-based learning and problem solving.

The curriculum modules are thematic and/or medium-based. A thematic approach to teaching MIL involves the ways in which information about the same topic or theme is presented in different media, and involves examining the advantages and disadvantages of each as sources of information. A medium-based approach involves an intensive analysis of a particular medium as well as the ways in which the medium shapes or influences the information it presents (Wilson and Duncan, 2009, p. 134). The curriculum recognizes the importance of analyzing the *text* or source in which information is presented, as well as the larger *context* in which the source appears.

The modules included in the curriculum are listed here. These modules can be integrated into existing courses, or combined to create a stand-alone course in MIL. Highlights from 4 of the modules are outlined below:

- Citizenship, Freedom of Expression and Information, Access to Information and Lifelong Learning;
- Understanding the News: Media and Information Ethics;
- Representation in Media and Information – including Television, Film, Popular Music and Print media;
- "Languages" – or the codes and conventions used – in Media and Information;

- Advertising;
- New and Traditional Media;
- Internet Opportunities and Challenges;
- Information Literacy and Library Skills;
- Audience;
- Media, Technology and the Global Village;
- Communication and Learning: A Capstone Module.

Internet opportunities and challenges

New digital media, including the use of Facebook and YouTube, have created collaborative, participatory media which have transformed media and youth culture in the last five years. Of paramount importance for a relevant classroom, MIL education must conceptualize and incorporate these new media in education. In this module, an exploration of MIL recognizes new media as providing a channel of information and education through which citizens can communicate with each other, as well as a vehicle for cultural expression within and between nations. It also provides teachers with the opportunity to evaluate information presented in an on-line environment and assesses the benefits and liabilities of social networking.

In this module, teachers:

- Consider how these technologies can be used most effectively;
- Access, evaluate and synthesize multiple sources of information;
- Consider and weigh issues of copyright and privacy;
- Explore the impact of social networking on politics and global issues; and on culture, identity and relationships;
- Explore challenges and risks in the virtual world.

Audience

We know that audiences are targeted by media producers, based on characteristics they share, such as gender and age. Producers want, and need, an audience for the products or messages they are creating in order to generate revenue. We also know that when reading or viewing media texts, each of us negotiates meaning in unique ways, based on our background and experiences. Audiences in this sense are *active* as they create their own interpretation of a text.

In this module, teachers analyze a number of media and information texts in order to identify the target audience, explore the ways in which different audiences might respond to various texts, as well as the ways in which form and purpose can influence audience response.

This module also addresses the following questions:

- How do young people use media texts today? For what purposes? How do they make sense of what they see, hear, and read – that is, what they use or "consume" from media texts?
- What knowledge and experience do individuals call upon in order to make sense of what they see and hear in the media?
- How does an author's/producer's background and experience influence a reader's understanding of a text?

Advertising

Advertising surrounds us. It's everywhere: on television and the Internet, on billboards, in film, and on clothing. But the art of persuasion involves more than just advertising. Today we are also surrounded by public relations campaigns and corporate sponsorship as companies and governments do their best to create a positive image and promote goodwill. Advertising and public relations campaigns use techniques and strategies that are constantly evolving in order to promote products, services and ideas, and influence people's behaviour, values and beliefs. For many young people, advertising conveys messages not only about what to buy, but how to feel about themselves and their place in the world.

This module focuses on a number of areas connected to the world of persuasion, including:

- the creative process: the construction of emotional appeals in advertising;
- market research, including the notions of target and active audiences;
- corporate sponsorship;
- advertising revenue and regulation;
- public service announcements;
- advertising and the political arena.

Media, technology and the Global Village

The increasing trend towards globalization of culture has been fueled, in part, by transnational media corporations and recent mergers. This trend suggests some important theoretical and practical challenges to issues of

cultural sovereignty, democracy and national identity. This module examines the impact of the media on notions of global citizenship, pluralistic values and on local and national cultures.

This module also explores such topics as:

- patterns of media ownership and control, and the implications for access, choice and range of expression;
- globalization and media imperialism;
- commoditization of information;
- examples of alternative media, and its role in promoting transparency, diversity and freedom of expression.

Conclusion

MIL plays an important role in creating democratic, transformational classrooms. Bringing media and information texts into the classroom connects these spaces to the world and provides authentic learning opportunities for students. It provides students with access to the skills and knowledge that they need to be effective citizens, prepared for life and work in the 21st century. MIL represents the potential to shift some of the power traditionally held by those in control of mass media and information sources into the hands of students, as young people use new technologies to tell their own stories, and those of their communities, to local and global audiences.

The curriculum on Media and Information Literacy is an important resource for any teacher interested in MIL. It provides us with a common framework and language for continuing to explore this field. It also provides opportunities for collaboration between curriculum leaders, classroom teachers, and media professionals in developing and implementing programmes in MIL. Looking forward, there is a definite need for establishing professional associations or networks, as well as ongoing professional development and teacher training, so that those involved in education will feel prepared and confident in their efforts to implement Media and Information Literacy. It is hoped that the MIL curriculum will be seen as a source of inspiration and creativity, as educators adapt and utilize the curriculum as they see fit, based on their local circumstances. It is also hoped that the curriculum will serve as a catalyst for education authorities and policy makers who will be called upon to support the important work of teachers and students in this field.

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Information Skills: Conceptual Convergence Between Information and Communication Sciences

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1. Introduction

This contribution identifies the main points where information and communication sciences converge, discussing the competencies that individuals must develop to handle efficiently information resources, which are an asset that can provide a range of socio-economic benefits to those who know how to use them. Information and communication professionals work with materials and tasks that have many aspects in common: information and knowledge, as well as the processes through which they are conveyed, disseminated, retrieved and used. It is necessary and timely to discuss this topic, because the mass media are doubtlessly a major factor to achieve the ideal goal of distributing information and the knowledge it contains more democratically, which is the aim and theme of a number of international projects promoted by such agencies as UNESCO and the Organization for Economic Cooperation and Development (OECD). Implementing these programmes requires defining indicators and standards to monitor effectiveness, which first calls for a common language – our focus here. Our analysis uses the terms "competencies", "skills" and "capacities" interchangeably as synonyms, to vary the prose, although the three terms do have their semantic nuances. We have also written as if the adjectives "informative" and "informational" were semantically alike, although they are not identical, and the same goes for the terms "information skill development" and "information literacy", although the latter is conceptually constrained in Spanish, albeit quite prevalent in the English literature.

2. The present-day importance of information

UNESCO has declared (2002, p. 3): "Information and knowledge have not only become the principal forces of social transformation. They also hold the promise that many of the problems confronting human societies could be significantly alleviated if only the requisite information and expertise were systematically and equitably employed and shared". Along these same lines, a meeting of experts in Prague (2003), also under the auspices of UNESCO, issued the *Prague Declaration "Towards an Information Literate Society"*

(Spenser, 2003, p. 1-2). This document urges the world's governments to develop interdisciplinary programmes to promote information literacy, as a necessary step toward creating a literate citizenry, an effective civil society and a competitive workforce. Although the exhortation was addressed to governments, this is clearly a task incumbent on all societal sectors. The importance that UNESCO grants information commodities and access to them was materialized in the Information for All Programme (IFAP), created in 2000, to integrate the efforts of governments from the full diversity of the world's countries, in order to create more equitable societies, by improving access to information. This Programme's work has lent fundamental support to the United Nations proposal to devoting the decade from 2003 to 2012 to world literacy[1].

3. The information and knowledge society

As we constantly repeat that information and knowledge are the main resources driving contemporary societies, this makes it almost automatic to choose this name for the historic stage that humankind is now experiencing. So, the concepts of "Information Society" and "Knowledge Society" have become commonplace, although they are not always differentiated from each other. This difference starts by understanding that information and knowledge are not synonymous. For instance, Bell (1985, p. 154) proposes that when we speak of information, we are referring to "news, facts, statistics, reports, legislation, tax codes, judicial decisions, resolutions" and so on. Whereas "knowledge is interpretation in context, exegesis, relating and conceptualizing, forms of argument. Knowledge results in theories: the effort to establish meaningful relationships or connections among facts, data and other types of information in some coherent way, and explain the reasons for such generalizations". Some authors (including Bell) take a largely economic angle, asserting that the information society is transcending toward a "knowledge society", by advancing in such indicators as the number of scientists or others in research and development, or the percentage of the Gross Domestic Product devoted to this sort of activities.

Others, such as Pantzar (2000, p. 230-236), coordinator of the Information Research Programme in Finland, feel that humankind must take advantage of this exponentially expanded information, now easier to distribute thanks to new technologies, to generate useful knowledge to help problem-solving, reduce poverty, unemployment, loneliness, crime, insecurity and war. As human communities access ever more plentiful information, they will have the raw material to turn into knowledge and we will be able to speak of a Knowledge Society.

[1] More information on this Programme can be found at the UNESCO portal: http://portal.unesco.org/ci/en/ev.php-URL_ID=21290&URL_DO=DO_TOPIC&URL_SECTION=201.html.

Another key feature of the information or knowledge society is the so-called digital divide: all those barriers that keep a person or members of a societal group or country from accessing information commodities. It was originally an issue of available technologies and skills to handle them, but with time other factors have been discussed, including mastery of the competencies necessary to handle information. UNESCO, for example, seldom uses the term digital divide, because it feels that the term refers mainly to one of the problems regarding lack of access to and use of information – the technological aspect – but, in addition to this factor, there are other obstacles, cultural, political, ethical and educational, that fit better under the concept of a "cognitive divide" (UNESCO, 2005, p. 23). Certainly, one of the obstacles to better use of information does involve citizens' low – if any – competency to handle information.

4. Related concepts and terms

International efforts to improve information distribution, access and use all grapple with the variety of terms used for the competencies that must be developed, and a broad range of strategies to accomplish this task. In April 2005, in Lyon (France), the European Regional Meeting on Literacy gathered some 150 participants from 38 nations, belonging to different sectors in their countries. To prepare for the Conference, these participants were asked to fill in an extensive survey on literacy in their countries. The surveys (30 were received) revealed a great variety of definitions for literacy, from different economic, social or cultural angles (Encuentro, 2005).

Of course, standardizing the terminology used is a prerequisite to potentially designing indicators for statistical monitoring of actions undertaken, and results attained. Some current progress in developing international indicators is being coordinated by the UNESCO Institute for Statistics, which is initially considering indicators to address three main aspects: supply (to reflect the degree to which governments and other national agencies provide information through a variety of channels); use of information; and the degree to which people acquire the skills needed to use information and communication technologies (UNESCO, 2007, p. 3).

In Library and Information Sciences, a polemic has long raged about the scope and validity of the different terms used for activities, experiences, or states related to developing the capacities to handle information. This panorama is further complicated by linguistic and cultural differences, and by the continual appearance of new technologies, proposals and perspectives. The discussion has reached such a point that some authors, such as Owusu-Ansah (2005, p. 366), have called for a truce, now that so much ink has been spilt trying to convince each other about which term is more accurate, when the truth is that supplanting one term by another merely changes the name

or descriptor assigned to the concept, but without transforming or clarifying any better the phenomenon identified. The terms being disputed include: “user education”, “user training”, “bibliographic instruction”, “developing information skills”, “information(al) literacy” and, most recently, “developing information competencies”. In a book that is quite well-known internationally through its translation into Spanish, Wilson (2000, p. 103) provides a brief description of the main terms used in instructional programmes, although obviously referring to those used in United States libraries, where there seems to be less semantic confusion. Wilson speaks of: 1) Library Orientation; 2) Library Instruction; 3) Bibliographic Instruction; and 4) Information Management Education.

However, Wilson feels that these concepts must not only be viewed as semantic variations, but also as a reflection of evolution in practice, where activities and tasks for user education have become increasingly complex. This complexity has been generated largely by the ICTs, which have made it possible both to store greater volumes of information and to retrieve it faster and more efficiently. However, it has also made it necessary to know how to handle these technologies and figure out how to sift out clearly the best-quality information.

In several Spanish-speaking countries, it seems that most of the discussion revolves around whether it is better to say “user education” (educación) or “user training” (formación). The latter term, according to a note by Compton García-Fuentes, translator of the book “Reference and Information Services: An Introduction”[2], comes from the French psycho-pedagogical school of thought based on cognitivism and emphasizing meaningful learning. That same note also refers readers to a book by Bernard Honoré: “Toward a Theory of Education: Dynamics of Formativity”. This assertion by Compton García seems accurate because the term “formation” is widely used in the French educational system. In fact, the term that seems to be most used in that country, to refer to information user education, is “Formation à la Maîtrise de l´Information”, whereas the literature on education written in English makes almost no use of the term “formativity” (according to a search in the ERIC data base[3]). However, even UNESCO, through the General Information Programme (Tocatlian, 1978, p. 382) early on (three decades ago) considered “user education” and “user training” as synonyms, defining them as: “any project or programme to orient and instruct current and potential users, individually or collectively, in order to help them: a) recognize their own information needs; b) formulate these needs; c) effectively use information services, and d) evaluate these services”.

[2] Bopp, R. E. & Smith, L. C. (Eds.) (2000). Reference and Information Services: An Introduction. The note appears on p. 101 of this book.

[3] Search retrieved on 30 September 2008, using the term “Literacy” on the ERIC Website (www.eric.ed.gov).

The term “information skills” is consistently used, to this day, in the United Kingdom literature and has been widely disseminated by professionals of the Autonomous University of Ciudad Juárez (Mexico), during the past decade, translated as “Desarrollo de Habilidades Informativas”, DHI (Development of Information Skills), which places the emphasis on the process: “development”, and on the product: “information skills”. “Informative” as the adjective form has the disadvantage of alluding to “the capacity to inform”, so “informational” is more appropriate, referring more directly to the information. However “Informative” has been kept because it was used initially and has become commonplace in Mexico and elsewhere in Latin America. This argument is similar to the one in English-speaking countries that have kept “Information Literacy” despite its semantic limitations. The term “development of information skills” has proven to be quite useful, stressing the practical aspect of user education sessions, often based in computing centres. However, when we say “development of information skills”, we are actually referring only to a part of the elements comprising the competencies – knowledge and attitudes must also be added. The phrase “development of information skills”, or simply the acronym DHI, has taken root deeply among librarians in some Spanish-speaking countries. Moreover, since early 2006, Spanish librarians have been proposing the acronym ALFIN to refer to informational literacy, as a way of avoiding arguments about the most appropriate term. This initiative has been successful. The acronym is easy to pronounce, but it conceals the term “literacy” (alfabetización) with its negative connotation of an absence of skills or competencies, which must be developed starting right from “ABC” with users. This acronym has been used increasingly, although limited by its having meaning only in Spanish.

4.1. Competencies for use of information

A term used increasingly is “information competencies” or “developing information competencies”. This is surely due to the influence of new educational models benchmarked to competencies that students must demonstrate by the time they complete their studies. Examples of using the term competencies related to information management are frequent: a quick Internet search shows millions of mentions. A very concrete example is the title of the standards created by the Association of College and Research Libraries, in the document describing the characteristics that a university student should have to become an effective information user – one of the documents most consulted and used in the world of librarianship: “Information Literacy Competency Standards for Higher Education: Standards, Performance Indicators, and Outcomes” (ACRL, 2000). The term “Literacy” could easily have been left out.

One major difference between these terms involves those activities by agents external to the individual who receives their impact (such as the work

of librarians) and others driven by one's own initiatives and personal, individual work. Thus, discussions of bibliographic instruction, library instruction or information literacy (which we will discuss below) usually refer to activities that librarians design and do to teach users about library resources and services and how to use them, with somewhat passive user participation; the concept of user education also has this connotation.

In new educational paradigms, these perspectives tend to lose momentum, as the learning process is expected to depend mainly on individuals' own personal work and initiative. This agrees increasingly with cognitive theories of learning, defined as "an individual act related to each individual's conceptual structure and knowledge" (Hernández Salazar, 1998). Moreover, the literature constantly repeats that thinking skills, displayed through critical thinking, are a factor complementing competencies for mastering information. At the same time, critical thinking develops better as people become more self-sufficient in their learning – among other things, by using information resources more effectively. It is therefore necessary for educational systems to help students develop critical thinking, although there is actually very little theory as of yet about how to support this process. Information professionals involved in user education programmes must also learn more about this topic and how to facilitate information and mass media users' development.

4.2. Information Literacy

The concept of "Information Literacy" was coined by Paul Zurkowski in a 1974 report to the National Commission on Libraries and Information Science, describing the main skills that employees would need in the growing service sector of the United States. According to Zurkowski: "A person trained to apply information resources in their work may be called information literate. This person has learned techniques and skills to use a broad range of information tools… to shape information solutions to fit their problems" (Kapitske, 2003, p. 39). Patricia S. Breivik (2006, p. 7-8) writes that a major feature of this concept is that it takes "information literacy as a product. It is a product of the student's learning. It does not involve stimuli or inputs, but rather what people can do after having received those stimuli or inputs". Breivik's connotation is not implicit literally in the term, since it has the same instructional orientation as the phrases of "user education" or "training", and therefore does not reflect constructivist learning trends.

This concept of "information(al) literacy", which can be expressed several ways in Spanish, appears as the broadest and most widely used, having arisen in English-speaking countries, which have published most of the literature on this topic. Therefore, the term has spread, at least in the West, if not worldwide. In other languages, as in Spanish from Spain, the English word is used

directly, rather than translating it, as is done in Latin America. The constraint, again, is that "literacy" portrays the information user as a person without competencies, who must be taught from scratch, their "ABCs". This generates confusion in Spanish-speaking countries, because the word "literacy" usually means minimal capacities to read and write, and the tasks required to teach those capacities. A similar situation arises in France, where the term used is "Formation à la Maîtrise de l'Information" (Chevillote, 2003, p. 24-25). Further, it is interesting to read recent proposals, even in the United States, to replace the concept of "Information literacy" with, for example, "Information fluency", with the argument that the former has a negative connotation, seeming to view learners as "illiterates". The concept of "Information fluency" has the advantage of giving the idea that individuals are just trying to enhance their information management competencies (Mani, 2004, p. 30). The Information Literacy Section of the International Federation of Library Associations and Institutions (IFLA) discussed, in 2006, a name change to some other more appropriate term that would be linguistically acceptable in other major languages. However, their study concluded that the same name should be kept, in view of its international recognition, even among library funding agencies, and recommended that each country adopt the most appropriate term in their own language.

5. Relationship with other forms of literacy

Using the English term of information literacy in the following sections for practical reasons and because the literature cited uses it (despite all the arguments due to its semantic limitations), we will review the relationship of this concept among the disciplines of communication and information sciences, which is our main topic. Some authors, such as Bawden (2002, p. 361-408) have made an effort to attempt to establish a relationship among different skills related or close to information literacy. This group of skills is often referred to as a form of literacy, understood as the ability not only to read and write, but to perform the necessary tasks to function adequately in a given context. So, Bawden analyzes the relationship between information literacy and the other following forms of literacy: 1. Library Literacy; 2. Media Literacy; and 3. Computer Literacy. "Based on an analysis of several internationally known indices, the author finds that the term "information literacy" has spread since the early 1990s, whereas "media literacy" has been growing in use through the end of the 1990s". Another way to find quickly relationships among different competencies or literacies is by checking the thesaurus of the Education Resources Information Centre (ERIC), one of the best data bases for educational topics. According to the ERIC thesaurus, searching for the term "literacy", a range of related terms appears (see Figure 1[4]).

[4] Search retrieved on 30 September 2008, using the term "Literacy" on the ERIC Website (www.eric.ed.gov).

Scope Note:	Ability to read and write ~ also, communication with written or printed symbols (i.e., reading and writing)
Broader Terms:	n/a
Narrower Terms:	Adult Literacy; Emergent Literacy; Family Literacy; Functional Literacy; Information Literacy; Media Literacy; Reading; Scientific Literacy; Workplace Literacy; Writing (Composition).
Related Terms:	Basic Skills; Cultural Literacy; Illiteracy; Literacy Education; Metalinguistics; Numeracy; Reading Skills; Reading Writing Relationship; Writing Skills.
Used For:	Literacy Skills.
Add Date:	07/01/1966

Figure 1. "Literacy" and related terms (ERIC Thesaurus)

5.1. Computer Literacy

A special mention goes to the relationship between developing information skills or competencies and computer literacy, because the former are sometimes used more broadly, to include information and communication technologies. It is also common to find people, including students, who think that good information management is guaranteed by mastery of computers and other ICTs.

Information competencies refer not only to skills and knowledge, but also attitudes, which will not accrue just by knowing how to use technologies. In fact, there are certain very important skills to manage information efficiently that computer literacy may not necessarily generate: thinking skills, necessary to analyze, evaluate, infer, and generalize the information one reviews.

In this regard, the Association of College and Research Libraries, drafters of the ACRL standards, took a position to clarify this: "Information literacy involves skills to handle information technologies, but has broader implications for the individual and for society… Although information literacy significantly overlaps with information technology management skills, it is a different, broader area of competencies. Increasingly, information technology management skills dovetail with and support information literacy" (ACRL, 2000, p. 3).

5.2. Other literacies

A document by Fransman (2005, p. 9-10), distributed by UNESCO, lists the competencies or literacies that grant access to information and knowledge, including the following: Information literacy; (New) media literacy; Digital/computing/ICT literacy; Visual literacy; Environmental literacy; Political/civic/citizen literacy; Cultural literacy.

In a more intricate representation (see Figure 2), Catts and Lau (2008, p. 18) share the idea that developing information skills or information literacy is a core element to many models of competencies for adults. The constellation of skills that an individual requires to function adequately in society is varied: at its foundation is the person's ability to reason, to think critically; followed by the next level, the capacity to communicate verbally, speaking and listening, so citizens can interact with the world they live in; then come the competencies of literacy, reading, writing, and numerical operations, among others. This segment of the constellation of skills is fundamental to modern life, because the citizen will have skills to communicate in writing in different walks of life. All the preceding strata of competencies require, in turn, reinforcement by skills to handle information technologies and mass media; the former enable handling of digital technology, and communication tools. When an individual has these competencies, he or she can definitely develop greater media capacities to access, filter, judge and use the information received through multiple channels, including the mass media, which comprise a society's information life, especially in an industrialized society. Additionally, information competencies such as media skills or ability to use the mass media are indispensable for the person to identify their own information needs, and have the capacity to satisfy them by locating, retrieving, and evaluating information, according to their own parameters of significance, in order to use it, build new concepts and make decisions while climbing that scaffolding assembled with prior knowledge and new information; and then, ideally, communicate their cognitive output through a document (note, article, book or audiovisual medium) or any other written or oral means.

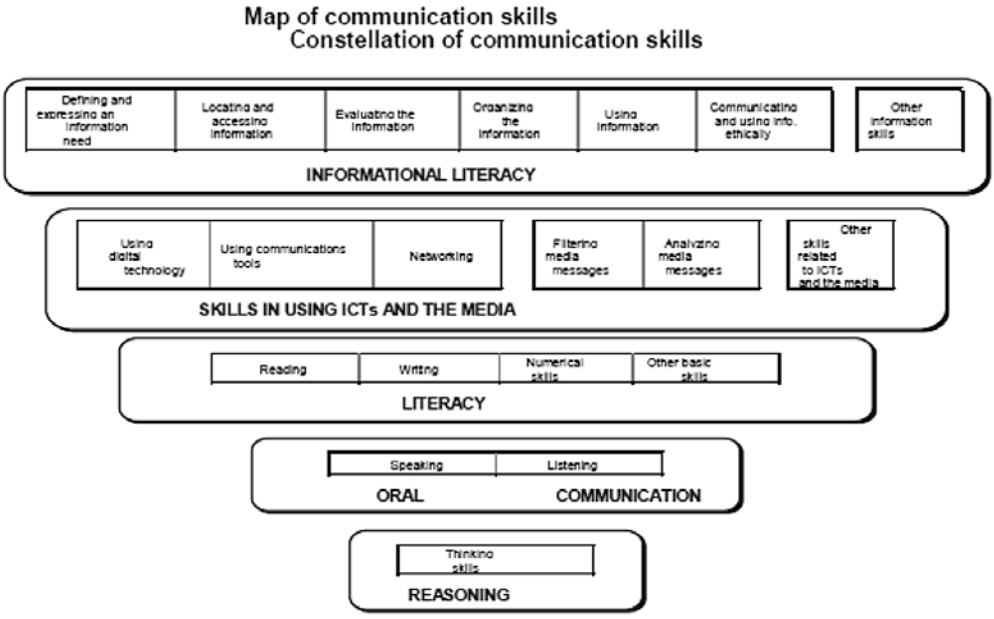

Figure 2. Map of communication skills

Source: Ralph Catts and Jesus Lau (2008). Towards Information Literacy Indicators. Paris: UNESCO, 46; 18.

6. Managing information from mass media, from a librarian's perspective

Much of the previous section must be viewed with some subjectivity, because it is based mainly on the authors' personal appraisals. However, there may be some lines that should be pursued more deeply. First, the type of information traditionally presented in the media, compared to that which receives more attention from librarians and information professionals.

6.1. Information of interest to librarians

First of all, we are aware that development of ICTs fosters keeping the formats used to publish and query information the same, so it is necessary to pay more attention to the origin and purposes of information. Information professionals grant greater importance to information that can be considered academic or has the characteristics of having been developed following methodologies qualified as scientific. Therefore, much of the information circulating in the mass media (e.g. newspapers, blogs, television and radio programmes, among others) is considered unworthy of notice. The type of materials considered "good" are documents of academic nature, such as articles in journals, books and other

academic and scientific productions, for which the ability to identify, locate and retrieve them requires acquiring skills. By contrast, the mass media reach users generically, so to speak, almost always omnipresent, quite unlike academic information, which must be sought out and located.

Librarians and other information professionals feel that the mass media work regularly with information that has been put together differently from academic information and even pursues different aims. The information circulating in the mass media is not what is most necessary or useful, but what is likeliest to catch the audience's attention. Of course, the mass media also have scientific research, such as feature articles in newspapers, or documentaries on television. As for the way that information is expressed in academic media, regardless of the media used, the main difference seems to lie in making it clear regularly whether the author has factual support for the information, or just mentions ideas that came to mind; this is less clear in the information published through the mass media. To better explain and understand this distinction, according to Argudín (2001, p. 86-100), information is regularly presented in the form of: 1. Facts (information that can be validated); 2. Inferences (fact + opinion, inducing one thing from another), and 3. Opinions (value judgments).

These factors listed by Argudín are common to any kind of information. However, in academic communications, the different types are – or ought to be – clearer. From an information professional's perspective, this does not always happen with the information published in the media such as TV, newspapers, radio, and other media broadcast over Internet, among others. This does not necessarily mean that information containing plenty of the authors' opinions is worthless, because their opinions are surely value added, if backed by facts (making an inference) – this is not the case with unsubstantiated opinions. In short, daily news, published by the mass media, poses greater risks in terms of accuracy for readers, who have usually not developed the skills to distinguish reliable information from unreliable material.

Further, more information circulates in the media with the ulterior purpose of persuading the audience to make certain viewpoints their own. For instance, during election times, the media are saturated with messages and news that may be slanted by the authors' particular interests regarding the contending candidates; in fact, some media are or become allies of one side or the other (Aceves, 2001).

7. Common and differentiated competencies

The relationship between information literacy or information competency development and developing skills in using mass media is tightly linked to the goals of each. The greatest difference lies in the emphasis they place

on the different competencies to be developed. For information literacy, one emphasis is to seek and retrieve information, whereas in media literacy, the emphasis is more on evaluating information; where both competencies coincide fully is using the information critically. Similarly, information competency development emphasizes using materials mostly of an academic or scientific sort. This is a priority for this type of competencies, because they usually involve complex citizen decision-making and educational work by individuals, from elementary school to adulthood and post-graduate studies, while developing media competencies is generally for any citizen's societal functions, whether strictly social or economic and political. In other words, they are ideally competencies for the entire public, for any individual who not only reads, but is able to listen to and watch the different mass communication alternatives on the market. Further, it is difficult to separate the aims of the two competencies in regard to the target audience, since developing information competencies, at least theoretically, targets all sorts of individuals, i.e., children, adults, scholars and citizens in general, although the main efforts are made for the educational sector; meanwhile, developing media competencies also targets the public at large but, as with information competencies, usually focuses more on citizens in general. Figure 3 describes the close interrelationship between the two groups of competencies and their target audiences, which are the same; the media; where they have differences; and the capacities they emphasize, for citizens to become informationally equipped. The elements in the figure cannot be separated strictly, since they are all adjacent and overlapping, to a greater or lesser degree.

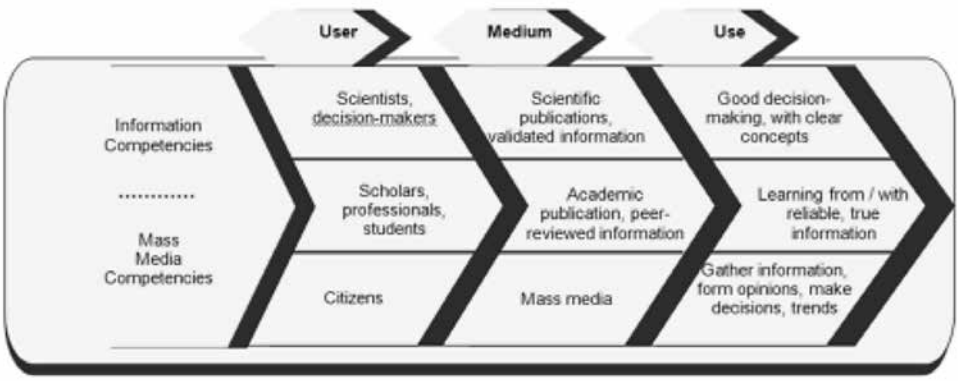

Figure 3. Mass media competences and Information competences

8. Conclusions

Information competencies required by an individual grow in complexity with the activities he or she is engaged in, whether a man or a woman in the street, or a scientist – which could turn out to be the same person, but in different settings. If information needs are for day-to-day use, the required competencies will be really basic and simple, but as the decisions demanded become more complex, they will require more profound skills, as in academic or research settings. In other words, information skills will have to be more developed, which depends on the person's experience and education. These complex information needs require greater availability and access to formats with gatekeepers, such as journals or hardcopy/digital books, which entail more complex production mechanisms than the regular contents of a newspaper or television programme – not to deny that there are newspaper articles and television programmes with in-depth research and reasoning – which also demand high levels of knowledge and competencies for citizens to understand and reason with such messages. However, generalizing about information skills (and thereby obviously glossing over their particular features) implies that they are more oriented toward using more complex documents, whereas media skills for dealing with the mass media are (also venturing to generalize) for using simpler information for commonplace application to individuals' day-to-day lives.

Both kinds of competencies – information and media competencies – are vital. Media skills obviously define a society's capacity to criticize the media that bombard them every day, and this decides the society's daily destiny, while information skills are linked to a country's scientific and academic capacity to generate science and technology, among other applications in production and humanistic sectors.

As a final conclusion, the range of informational and media competencies have a common convergence in the capacity to handle information inputs with critical capacity; where they differ is in their emphasis on search and retrieval skills, and the types of information documents they use. The audience for both disciplines (librarianship/information sciences and communication sciences) is the same, all the way from children beginning school through post-graduate scholars, including regular citizens. Both disciplines are aimed at developing citizens' critical judgment to use information. The difference is that librarianship emphasizes the use of academic and scientific information and communication sciences favor the use of the mass media, in their huge audiovisual and written variety.

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An Analysis of the Concept of Information Literacy

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Introduction

The concept of information literacy has been discussed since the term originated by Paul G. Zurkowski and first coined in 1974 in a proposal to the US National Commission on Libraries and Information Science. The term and its definition have been debated extensively in the literature, especially of library and information science, and there has been a disagreement over it.

Over the time, information literacy has become a core concept for information society. Today, there are numerous definitions and the concept is still evolving. How it is defined and understood differs not only from one discipline, one nation and one language to another but also from yesterday to today. Resultant ambiguity requires clarification. This paper is an attempt to analyse the concept.

Background information

As Elmborg (2006) suggests, much of the confusion regarding the concept resulted from the word ‘‘literacy’’. Since “literacy” refers to basic abilities of reading and writing, it made the term more slippery and ambiguous at the beginning. Today, using the term “literacy” (when it accompanies another term, such as computer literacy, health literacy, civic literacy) in the meaning of having some competence and basic knowledge of a field of study became widespread. When the term “literacy” is used with a term like “computer” to construct a new term (computer literacy), the meaning is clear. However, when it is used with the term “information”, it means lots of different things to lots of people. As a result, the meaning of the term “information literacy” remains problematic.

Disagreement over “information literacy” caused for searching for alternative terms. Suggestions for terms to use instead of information literacy were listed in 1997 by Snavely and Cooper. Nevertheless, most of these terms were also open to misinterpretation. Examples of suggested terms include:

- Curiosity Satisfied-Across-the-Curriculum,
- Global Informatics,
- Information Mapping,

- Information Sophistication,
- Know How to Know How,
- Library Appreciation,
- Macroscopism,
- Research mapping,
- Research-Across-the-Curriculum,
- The Question Authorities.

Eventually, “information literacy” remained. Although there are many people who dislike the term, it is now widely accepted and used. It has been used extensively specifically in the library and information science literature and it is gaining a wider use beyond libraries.

Understanding the concept

There have been constant attempts in the past years to clarify the concept. Multifold definitions were proposed and various models and standards were developed. A true understanding of the concept requires a deep analysis of its numerous definitions, models and standards as well as other literacy concepts which are closely linked to information literacy.

Definitions

There are numerous definitions in literature which have many similarities as well as some differences. As the examples below reflect clearly, they all focus, from the very early ones, on stages of information problem solving process such as defining, locating, using, evaluating and communicating information. On the other hand, a close examination of these definitions also shows that they expand over time while the concept evolves. One of the main reasons of this expansion is the necessity of giving more details to clarify the ambiguity over the concept and the need for adaptation to the developments. As a matter of fact, since early 1980s some definitions have begun to refer to technology skills (as a result of extensive use of technology in storing and accessing information); and media and format of information (due to the use of new formats and different media for information storage and dissemination). Some definitions include higher order thinking skills such as critical thinking, while others make connections with other concepts such as lifelong learning and social and ethical dimensions of information use.

Here are some examples for IL definitions:

Set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information (ALA, 1989).

The ability to solve information problems (ALA, 2000).

A combination of information and technology skills; as acquiring mental models of information systems; as a process; as an amalgam of skills, attitudes and knowledge; as the ability to learn; or as a complex of ways of experiencing information use (Bruce as cited in Owusu-Ansah, 2003).

Knowing when and why one needs information, where to find it, and how to evaluate, use and communicate it in an ethical manner (CILIP, 2004).

The ability to effectively identify, access, evaluate and make use of information in its various formats, and to choose the appropriate medium for communication. It also encompasses knowledge and attitudes related to ethical and social issues surrounding information and information technology (California Academic and Research Libraries Task Force, 1997).

A mean to empower people in all walks of life to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals (Alexandria Proclamation, 2005).

Models

Models have been developed to outline information problem solving process, in other words the research process which is an important part of information literacy, and help clarification of the concept. Models represent information-seeking process we go through while looking for information or making research. They are like roadmaps, and help us navigate.

There are several widely known information literacy models, such as Big6 and SCONUL, which have similarities. In fact, as Spitzer, Eisenberg and Lowe (1998) note, there is more agreement than disagreement among the models.

Standards

Development of models was followed by standards development, as definitions and models alone were not sufficient to create an information society. AASL & AECT (1998) standards for K-12, ACRL (2000) standards for higher education, and ANZIIL (Bundy, 2004) standards are a few to mention.

They have been developed through a cooperative and collaborative process that gathered together representatives of all stakeholders including librarians and

educationalists (Snavely, 2001; Bundy, 2004). Mainly based on their performance indicators, standards can be used to frame curriculum objectives, learning outcomes and assessment criteria. They serve as guidelines in developing information literacy instruction programmes. As a conclusion, with all the details they include, standards largely contribute to the clear understanding of the concept.

Analysis of the concept

One needs to have a close look at all the definitions, models and standards in order to be able to identify main components of the concept of information literacy. Five main components can be identified when the concept is analysed:

- information skills,
- higher order thinking skills,
- format of information,
- interrelated skills and literacies,
- related issues.

Information skills

Information skills mainly refer to the steps of the information problem solving process, from defining the need for information to evaluating the product and process in the end. These skills also include locating, accessing, using, evaluating and communicating information and are mentioned in almost every definition and every standard. Models are purely based on these skills.

Higher order thinking skills

Bloom's Taxonomy is a classification within education which divides educational objectives into three domains, namely cognitive, affective and psychomotor. Skills in the cognitive domain are ranked in a hierarchy from "lower order" to "higher order", from remembering and understanding to analysis (critical thinking), synthesis (creative thinking), and evaluation (judgement) (Wikipedia).

Both "higher order" and "lower order" thinking skills are mentioned and evident in definitions, models and throughout the outcomes of standards.

Format of information

Information is an intellectual content, regardless of the vehicle and channel which carries and distributes it (paper/electronic; formal/informal). Consequently, information literacy is a medium-independent concept (Joint,

2005; Mutch, 1997). Some definitions of information literacy and almost all standards describe an information literate individual as a person who can access and use information regardless of its medium and format.

Interrelated skills and literacies

Information literacy concept is interrelated with many other concepts. *Lifelong learning* and *self-directed learning* are two of the most important. Lifelong learning is a survival skill in information society, because it is essential for updating the existing knowledge; developing new skills and competencies; handling the constant change; creating highly skilled work force; and maintaining competitiveness and employability.

Self-regulated learning and information literacy are keystones for lifelong learning. An information literate individual knows how to learn and is capable to achieve lifelong learning. Information literacy is a "prerequisite" and "essential enabler" for lifelong learning (Bundy, 2004).

Some *personal skills* such as self-motivation and numerous *interpersonal skills* such as communication skills, cooperation (team work), problem solving and decision making are also important components of information literacy.

Information literacy is seen as a fusion or integration of other skills and literacies (Rockman, 2004). Library literacy, computer literacy, media literacy, civic literacy, digital literacy, e-literacy, visual literacy, web literacy are just a few examples to mention. Some of these terms appear to be used interchangeably with information literacy and with each other. For instance, it is not uncommon to see the following terms used synonymously: computer literacy, technological literacy, information technology literacy, electronic information literacy and e-literacy (Bawden, 2001).

In this paper only few literacy concepts which are closely related to information literacy will be briefly examined.

Computer literacy is a general understanding of what computers can do, and the skills necessary to use them as an effective tool (Tuckett, 1989). As Bawden (2001) indicates there used to be a tendency to equate computer literacy for information literacy and use two terms interchangeably. However, these are two different terms (although interrelated) and one is a pre-requisite for the other. Tuckett (1989) explains the relationship between two terms very well: while one can be computer literate without being information literate, he/she cannot possibly be information literate without also being computer literate.

Library literacy is defined as a competence in the use of libraries and basic skills of finding information. It is arguably a precursor to information literacy (Bawden, 2001).

Media literacy includes specific knowledge and skills which can help in critical understanding and usage of the media (Jeong, Cho & Hwang, 2012). Media here refers to mass media such as television, radio, newspapers and magazines, and, increasingly, the Internet (Rockman, 2004). There is an overlap between media literacy and information literacy. Information literacy is a more general term and media literacy is a component of information literacy (Bawden, 2001).

Visual literacy is the ability to understand and use images, including the ability to think, learn, and express oneself in terms of images (Braden & Hortin, 1982). In other words it is the ability to understand graphs and charts (Rockman, 2004). Not all information is in textual form and especially with the use of web and graphical interfaces, information today is increasingly available in visual form. Visual literacy is thus a prerequisite for information literacy.

Information Skills	Higher Order Thinking Skills	Format of Information	Other Skills & Literacies	Related Issues
define	synthesis	paper	interpersonal skills	ethical
locate	analysis	electronic	media literacy	social
access	critical thinking	audio	digital literacy	political
use	creative thinking	visual	computer literacy	economic
communicate	reasoning	text	visual literacy	personal
evaluate	transferring	multi-media	basic literacy	security

Figure 1. Components of Information Literacy: The Iceberg model (by Kurbanoglu)

Related issues

Social, personal, economic, political, ethical issues are also important components of information literacy. Ethical issues are related to the ethical use of information and have close connection with plagiarism, fair use, and copyright.

Social and political issues, on the other hand, are related to democracy, social and civic rights, awareness, informed decision making, and social inclusion. Personal issues are more about personal development, competitiveness, employability, privacy and security.

Emerging literacy frameworks

There are emerging literacies which also have close connections with information literacy, namely multiple literacies, new literacies, multiliteracy, global literacy, transliteracy and metaliteracy.

Multiliteracies/multiple literacies/new literacies

Today there is a move away from a singular notion of literacy to conceptions of multiliteracies (Hagood, 2000). Attempts are made to reframe literacy in relation to modern ways of life (Cervetti, Damico & Pearson, 2006). Multiliteracies are comprised of personal, home/community, and school-based literacies (New London Group, 1996; Hagood, 2000) and include cultural literacy, media literacy, functional literacy, technology literacy, and information literacy. In fact, since information literacy includes the rest, it is quite possible to classify information literacy as a multiliteracy or multiple literacy concept.

Global competency/literacy

Global competency is described as knowledge, skills and dispositions to understand and act creatively and innovatively on issues of global significance. These skills help to investigate the world, recognize others' perspectives, communicate ideas with diverse audience, and take action to improve conditions (EdSteps, 2010; Yildiz, 2012). When definitions are taken into account, information literacy seems to be an important part of and a prerequisite for the global competency.

Transliteracy

Transliteracy is the ability to read, write and interact across a range of platforms, tools and media from signing and orality through handwriting, print, TV, radio and film, to digital social networks (Balko, Longley & Mackey, 2010). It is quite hard to distinguish transliteracy from information literacy.

Metaliteracy

Metaliteracy can be defined as abilities of critical thinking and collaboration in a digital age which provides effective participation in social media and online

communities. It includes: understanding format types and delivery modes, evaluating user feedback, creating a context for user-generated information, evaluating dynamic content critically, producing original content in multiple media formats, understanding personal privacy, information ethics and intellectual property issues, sharing information in participatory environments. Information literacy is central to this definition (Mackey, 2011) and there is an overlap between the two concepts.

Transversal competencies

Transversal competencies are also called key competencies and defined as those of particular value for both societies and individuals; useful in multiple areas of life (not only in school, not only in daily life, not only in the work place); and important for everyone, not just for specialists (not only for engineers, doctors, researchers, but also for students, workers, layman, children, elderly, handicapped, etc.) (Rychen & Salganik, 2001).

Transversal competencies consist of a set of specific competencies, bound together in an integrated approach: using tools interactively (language, symbols and texts; knowledge and information; technology); interacting in heterogeneous groups (relate well to others, co-operate, work in teams, manage and resolve conflicts); acting autonomously (act within the big picture, form and conduct life plans and personal projects, defend and assert rights, interests, limits and needs) (Rychen & Salganik, 2001).

As it is seen from the definitions, information literacy is a transversal competency.

Conclusion

It is not unusual to think of information literacy as a survival skill for information society. When it is analysed, information literacy can be seen as a concept which has various components and many facets. As an umbrella term, it covers many of the other literacies. It also seems to overlap with new literacies such as multiliteracies and global literacy. It is a metaliteracy. It is transversal in its nature and can be seen as an **iceberg concept** which is much bigger than what it is seen at first sight. Information literacy can be easily called a **megaliteracy** which is composed of many other skills and literacies.

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Literacy Within the Context of Knowledge Societies

Media Literacy: The Foundation for Anywhere, Anytime Learning

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Today's global media promote values, behaviors and products through common television programmes, music, film, websites, games, apps and social media, yet audiences are unprepared to filter this information with common tools for discernment that are widely taught and understood. Media literacy is well-suited to fill this void, since it can offer a consistent framework for critical analysis that provides the agency that is needed in addressing media and information. In this context, it is important to recognize what media literacy is – and what it is not – to give an underpinning not only for understanding but for assessment and evaluation of media literacy and its effectiveness.

It is important to note that just producing media does not make a person media literate – although production/construction is an essential part of media literacy. It is the critical thinking **applied** to production in a **systematic** way that makes a person media literate. In teaching, it is teaching **about** media rather than just teaching **with** media that distinguishes a media literacy pedagogy. This explains why having a credible framework for media literacy is essential: what makes a person media literate is understanding media as a system of representation, and being able to both deconstruct and construct media.

If media literacy is to be an effective education strategy, then it must be consistent, measurable, replicable, and scalable. To be able to evaluate the efficacy of media literacy, consistency in approach and in philosophy is essential in implementing media literacy programmes.

What common characteristics distinguish media literacy? First, media literacy helps individuals explore their deep and enduring relationship with media. In 1989, Eddie Dick, Media Education Officer for the Scottish Film Council, developed the Media Triangle, which illustrated the relationship between Text, Production and Audience. Understanding this relationship is fundamental to understanding the power dynamic between these three elements.

In looking at a common brand identity or logo, for example, it becomes evident that audiences have a shared understanding of the text – the logo –

that was produced by a particular organization. The audience did not necessarily "ask" for this understanding, but because of repeated exposure to the brand, people have internalized an understanding of what the brand means and how they may have interacted with it in the past. The producer has established a relationship with the audience through the text, which is the logo. Yet the audience exerts the ultimate power over the relationship when consciously deciding to engage or not.

Second, the focus of media literacy is on process rather than content. The goal of media literacy is not to memorize facts about media or be able to make a video or design a web site. Rather, the goal is to explore questions that arise when one engages critically with a mediated message that contains facts or other content – print or digital. It involves posing problems that exercise higher order thinking skills – learning how to identify key concepts, make connections between multiple ideas, ask pertinent questions, identify fallacies, and formulate a response. It is these skills, *coupled with* engagement with factual knowledge, that form the foundation of intellectual inquiry and workplace productivity, and that are necessary for exercising full citizenship in a democratic society and a global economy (Thoman and Jolls, 2004).

Such skills have always been essential for an educated life, and good teachers have always fostered them. But they too often emerge only as a by-product of mastering content areas such as literature, history, the sciences and mathematics. Seldom are process or learning skills explicitly taught. However if society is to graduate students who can be in charge of their own continual learning in a media culture, learning skills must be "incorporated into classrooms deliberately, strategically and broadly" (Partnership for 21st Century Skills, 2003, p. 6). As writer Alvin Toffler (qtd. in Partnership for 21st Century Skills, 2003) pointed out, "The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn and relearn" (p. 6). By its very nature, media literacy teaches and reinforces 21st century learning skills.

Third, media literacy education expands the concept of text to include all message forms – verbal, aural or visual (or all three together!) – used to create and then pass ideas back and forth between human beings. Full understanding of such a text involves not just deconstruction activities – that is, taking apart a message that already exists – but also construction activities – learning to write opinions and ideas with the wide range of multimedia tools available to young people growing up in a digital world.

Fourth, media literacy is characterized by the principle of inquiry – that is, learning to ask important questions about whatever one sees, hears, produces or engages with:

- Is this new scientific study on diet and weight valid?
- What are the implications of ranking friends on a social networking site?
- What does a "photo-op" mean?

With a goal of promoting healthy skepticism rather than cynicism, the challenge for the teacher (or parent) is not to provide answers but to stimulate more questions – to guide, coach, prod and challenge the learner to discover how to go about finding an answer. "I don't know: How could we find out?" is the media literacy mantra.

Questions, of course, open up many more questions. And even how one approaches a question determines what answers one might find. Inquiry is also a messy process because one question leads to another and yet another. To keep inquiry on course and to provide a way to be able to master a process of inquiry, curriculum specialists look for a comprehensive framework to provide guidance and structure. Core concepts of media literacy, rooted in media studies by academics throughout the world, are a way to express common media characteristics that also distinguish media literacy from other disciplines. Various adaptations of core concepts have been developed, starting with 18 concepts originally named by Len Masterman in his seminal work, *Teaching the Media* (1985), and eight core concepts used in Canada as a way of structuring curriculum. The U.S.-based Centre for Media Literacy (CML) compressed the ideas into five core concepts. The National Association for Media Literacy Education (NAMLE) provides a listing of Core Principles for media literacy, as do other organizations.

It is these core concepts, derived through media studies, that distinguish media literacy from other disciplines. CML, one of the pioneering media literacy organizations in the United States, provided a research-based framework, focused on CML's Five Core Concepts and on Five Key Questions for deconstruction, through the release of its original CML MediaLit Kit™ in 2002. In 2007, CML enhanced its framework by adding Five Key Questions for construction of media messages and introduced a completed framework, called Questions/TIPS (Q/TIPS™), to address questions from the viewpoint of both consumers and producers. The Q/TIPS framework is as follows.

Table 1. CML's Questions/TIPS Framework

No.	Key Words	Deconstruction: CML's 5 Key Questions (Consumer)	CML's 5 Core Concepts	Construction: CML's 5 Key Questions (Producer)
1	**Authorship**	Who created this message?	All media messages are constructed.	What am I **authoring**?
2	**Format**	What creative techniques are used to attract my attention?	Media messages are constructed using a creative language with its own rules.	Does my message reflect understanding in **format**, creativity and technology?
3	**Audience**	How might different people understand this message differently?	Different people experience the same media message differently.	Is my message engaging and compelling for my target **audience**?
4	**Content**	What values, lifestyles and points of view are represented in or omitted from this message?	Media have embedded values and points of view.	Have I clearly and consistently framed values, lifestyles and points of view in my **content**?
5	**Purpose**	Why is this message being sent?	Most media messages are organized to gain profit and/ or power.	Have I communicated my **purpose** effectively?

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Q/TIPS serves as a "metaframe" that teachers, students and parents can grasp and begin to use immediately as a starting point; as training, curricula and assessments are built around the metaframe, the inquiry process deepens and takes hold as the central methodology for critical thinking and learning across the curriculum. Furthermore, this metaframe is an easier way to introduce 21st century skills than some of the more complex frameworks which, although representing desirable outcomes, are very difficult to implement and engage teachers.

Learning to ask and to apply the Five Key Questions to texts is a process skill that is not mastered the first time out. Once learned, however, the process becomes automatic as users build the habit of routinely subjecting media messages to a battery of questions appropriate to their age and ability.

As the cornerstone of the media literacy process, CML's Five Key Questions provide a shortcut and an on-ramp to acquiring and applying critical thinking skills in a practical, replicable, consistent and attainable way. They are an academically sound and engaging way to begin and they provide curriculum developers with a useable structure that can be applied to *any* subject.

Though being media literate implies having a broader skill set than simply evaluating a media product, evaluating a media product always involves the skills of media literacy. It is for this reason that the ability to conduct a media analysis using a process called "Close Analysis" or "Deep Deconstruction" is a fundamental media literacy skill. A key ability demanded in close analysis is to distinguish fact from opinion, and to be able to separate content information from contextual inferences. Acquiring this skill demands practice from an early age and it highly complements study in language arts, so that both educators and students can easily and quickly analyse a media construction of any kind, regardless of the content area being addressed. These skills are fundamental to productively sharing information and acting upon information as informed citizens.

By instilling a common methodology for close analysis, students carry a consistent process of inquiry and habits of mind with them from grade to grade, from class to class, from subject to subject, from classroom to home, from school to work. This enables and deepens the development of a common vocabulary and a common understanding of both the media messages (the content and its forms) and the systems employed in global communications.

In today's global society, citizens need the skills to access, analyze, evaluate and create media information 24/7. The tools that Q/TIPS and close analysis skills provide enable citizens to *process* information efficiently and effectively, with the goal of becoming:

- *Efficient information managers*. We need to access information quickly and be able to store information effectively so that we can access it again.
- *Wise consumers.* We need to understand the messages that come our way and make wise individual decisions, using the information we have.
- *Responsible producers.* Today, everyone can be a producer, and in producing, it is important for all of us to consider the audience and the society we live in, to provide an enlightened approach to media production.
- *Active participants.* In using media, in deciding to buy products or to cast or ballot, we are sending messages and voting and participating in society. We buy not only a product or a service, but we buy an organization's advertising and communications, and we buy the worldview that the organization's communication represents. Our votes count, and so does our own expression. Where would a company or a

university or a nonprofit or an entertainer or an executive or a politician be without us, the audience?

Though content may vary infinitely, the process skills call upon consistent habits of mind.

Questions/TIPS (Q/TIPS) provides a basis for measurable education interventions that can address *any* subject, anywhere, anytime. The Five Core Concepts and Five Key Questions of media literacy can be internalized and applied on a lifelong basis. Q/TIPS lends itself well to curriculum development and to wide-scale adoption in educational settings, as well as with technology applications. CML has utilized the framework in professional development for pK-12 education and beyond, as well as for curriculum development and assessment. A recent evaluation of the CML framework by the University of California–Los Angeles (UCLA) has shown that this approach lends itself well to health-related education interventions, as well.

With content being infinitely available through technology today, it is the process skills of media literacy which must be taught, applied and internalized by new generations of avid media consumers. CML has pioneered since 1989 in identifying these process skills and in developing teaching and learning tools which insure that these skills can be shared and amplified in a world where being an effective information manager, a savvy consumer, a responsible producer and an avid participant in media culture is now a necessity for effective citizenship.

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Can One Speak of an "Information Transliteracy"?

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Foreword

For twenty years now, the notions of information *literacy* and thereafter *Translitteracy* have been the subject of a wide range of definitions and an extensive scientific literature, especially in the Anglo-Saxon world. We will attempt during this presentation to demonstrate some of the main dimensions in terms of skills and attitudes in the various literacies that are giving rise to the new forms of training and support required in the future.

The stance of the researcher with regard to transliteracy

In our opinion, researchers interested in this theme have suffered from not always sufficiently incorporating the issue of "Zeitgeist" in their analysis. Our approach seeks too often to find what is absolutely new: for example, Generation X and Generation Y for some, the new "cultural" model for others. Or the inevitability of Facebook or Twitter. So we sometimes find ourselves on the technological bandwagon where we are always waiting for the new technology to be available, without necessarily always grasping the situations we observe and seek to analyze. Yet, as Jacques Perriault (1989) reminds us, any technical situation should be considered in its historical dimension[1]. Moreover, we cannot conceive of the digital information culture in the singular. The most rigorous research conducted worldwide shows a division and even a fragmentation of the social practices of digital and information practices. Our stance here will be to consider such practices in their plural dimension.

Moreover, in our view, we believe it is essential to take the digital practices as a starting point in order to try to understand the new emerging skills. Indeed, the digital cultures are clearly one aspect of a major change in the modes of organization and access to knowledge. For example, in the history of societies, the library model of Alexandria heralded a transition with the move from rhetoric to documentation. We are probably currently experiencing a new transition from social memories through and around the document to the constitution of collective digital memories distributed via digital networks and information flows.

[1] For example, Perriault recalls that the first train resembled in form and sophistication to its forerunner, the stagecoach.

Furthermore, until recently, any reference to information was always associated with the notion of a public space. However, in the digital world, the touchstone is close or even intimate, where digital information formats range from personal to highly public. Therefore, how does one move from the close and intimate practices to the massive ones? The digital era involves the opposite of what happened in the past, namely moving from the more personal towards a progressive generalization. Our purpose today is based on a dual investigation that we have been pursuing for several years. First, we are seeking to identify the best practices of digital information in school and peri-school settings, particularly through the research project called LIMIN-R *("Littératies: médias, information, numérique: recherche*, 2010–2012"[2]) and the beginning of the project known as Trans.I. *(Translittératie Informationnelle,* 2012–2013, funding from ISCC-CNRS[3]). There is also a second research project called GCCPA *(Gestion de la Connaissance dans des Contextes Professionnels d'Apprentissage,* 2012–2014, funding from the Aquitaine Regional Government[4]) where we try to identify shared practices and ways of organizing knowledge in a professional context, with architects and stakeholders of the eco-construction industry and more broadly those involved in sustainable development. Through these two separate and different fields, we aim to identify the converging skills and information practices in an information transliteracy.

Defining the concept of Transliteracy

Transliteracy seeks, in our opinion, to identify skills and abilities common to three areas of information-communication: education in the mass media, computation (referring to the issue of programming, displays, and reading on screens) and learning from information-documentation (work on documents, forms and analysis of documentary content, assessment information, etc.). The Anglo-Saxon perspective is in our opinion more open and wider than ours, as suggested by Susan Thomas in 2007: "*Transliteracy is the ability to read, write and interact across a range of platforms, tools and media from signing and orality through handwriting, print, TV, radio and film, to digital social networks*."

[2] http://www.univ-paris3.fr/1304601907979/0/fiche___cours/.

[3] This article is published within the framework of an action financed by the Institute of the Sciences of the Communication of the CNRS (National Centre for Scientific Research) in conformance with the call for projects of year 2012.

[4] http://gccpa.u-bordeaux4.fr/.

What do we understand by the prefix "Trans"?

In our view, the prefix "Trans" refers to three main ideas:

- Transliteracy involves the "transversality" of the approaches and skills at stake. This means examining a set of skills and abilities common to all media contexts and techniques observed.
- Also the process involves transforming situations and information content by the practices and procedures undertaken by the stakeholders themselves.
- There is also a "transition" in time: in recent years, our observations tend to show that individuals begin their work on information by a phase of collective exchange and by comparing ideas. Then they move to a more personal phase of reflection, writing production and ownership.

Finally, transliteracy covers a range of notions to be considered, namely, digital literacy, network literacy, Internet literacy, computer literacy, news literacy, library literacy, media literacy, visual literacy... to name but a few.

Another view is that transliteracy constitutes three models of contemporary adaptation: "professional" adaptation where we comply with the workplace and its constant changes, "cultural" adaptation where we identify trends and significant changes in access to the consumption of various cultural objects, and, finally, "formative" adaptation where we try to gradually reach a level of autonomy in relation to knowledge and knowledge construction.

Transliteracy: a unique culture

It seems particularly difficult at present to define models of cultural practices involved in transliteracy. On the other hand, we would like to propose what these practices are not, or are no longer, by calling upon counter principles. We propose three of them:

1. Transliteracy it is not the culture of information, the latter being more critical and operative in incorporating the critical and civic dimensions of stakeholders with regard to information.

2. Nor is it a culture in the anthropological sense, as the digital world takes little stock of the issues of sharing, modes of affiliation and ritual forms, yet it is central to understanding a culture under construction. In fact, digital cultures are more oriented to describing what they offer rather than what they actually do.

3. Finally, it is not a culture of the "literate" which places at the centre of the process the notions of progressive learning, the arts to be created, paths to be

built, research approaches and the construction of knowledge[5]. Transliteracy allows an element of choice in social practices that are spontaneous. It allows individuals to create their own digital information solutions on networks.

This means that the transliteracy approach is a form of resistance to documentation and library standards that are still very strongly rooted. There are at least three aspects to this:

- On the one hand, transliteracy reasoning no longer resembles that of the literature and library science world, with its still very recent emphasis on learning activities centered on piles of data, documents and an ability to find them in physical and digital environments, while reproducing this learning.
- Furthermore, transliteracy questioning attempts to focus on content present on networks and digital spaces, and to exert less control on modes of management and organizing access to information[6].
- Finally, transliteracy modes underline the just in time looking for information *approach* rather than hazardous regular navigation in environments disseminating content and information resources[7].

The emergence of new forms of transliteracy-oriented skills

By combining a set of data collected during our investigations in university, school and architectural settings separating us in our discussion, skills that seem to be progressively implemented by the stakeholders themselves, positions that concern both the user and the information professionals called upon to implement devices and methods of organizing information favorable to transliteracy.

The four positions to be considered

The first one concerns “assessment” which involves not only the nature of the information, content and results, but also the entire process of content production and the chain of activities that lead to the content in question. More and more as individuals, professionals and citizens, we have to know how to evaluate the very processes of scientific, professional, cultural production and thus identify the real processes at work[8]. The second position is to be able to

[5] The so-called “good” practice, “reference” practice or “expert” practice.

[6] Such as storage, indexing and archiving of documents.

[7] In this sense, the wide range of services offered by digital publishers, the service providers, professional offers such as in architecture. We include here the quality of information based on large volumes and archives offered to clients, even if these offers are not necessarily what individual users really require.

[8] These include political issues, economic and cultural questions, stereotypes and consumerist strategies.

evaluate the overall potential of the socio-technical informational environments at our disposal, particularly in the field of learning and the professional world. Most of the individuals we observed during our investigations did not even apprehend everything that the digital work environments (ENT) offer them in terms of content and technical features. The third position is to become familiar with the operative procedures, going beyond the simple stage of reacting to a stimulus. Indeed, the "Digital Cultures" are dependent on digital objects and tools available. The fears we have about the manipulative nature of visual information reveal the emergence of new ways of doing things[9], forcing people to reconsider their informational gestures and adopt an analytical stance to the technical features available. The final posture is to maintain a "cognitive distance" from the immediate results offered by information systems (engines, ENT, etc.). Digital cultures teach us that there is always a response to our questions ... but what response? The transliteracy position is to get out of the belief *"Ask the system ... and you will find what you are looking for."* This means that trainers, teachers, mediators and facilitators should help to gradually increase the requirements and capabilities of individuals to analyze and understand the tools at our disposal (Simonnot Gazellot, 2009).

Eight transliteracy skills

Finally, beyond the forms and media literacies involved, eight meta-skills (MS) stand out and could be used in future education and vocational training.

MS1: comprehension and understanding of information systems, a sort of *"**information understanding**"*, where the stakeholder himself is able to perceive the various types of information systems, to weigh them up, to identify their value, and to use the right attitudes to them.

MS2: ***"information knowledge"****,* i.e. working declarative knowledge related to information and the dissemination of existing tools. The challenge of this MS is to possess the vocabulary of expression and representations linked to them. Our work shows that the media, technical devices, tools for processing information, etc. are not conceived of in the same way by individuals, undoubtedly causing all sorts of misunderstandings and misconceptions.

MS3: procedural knowledge related to technical issues (or *"**information applications**")*, where the goal is basically to be able to use effectively and efficiently the main technical tools in order to meet a need and perform a task.

[9] For example, the "widen" function of a mouse or trackball in order to zoom in on a content or image. Alternately, using the "scroll" function on the right of the screen to visualize the layering of a digital document.

MS4: the ability to assess the informational potential of the environment or the technique used (or ***"information potential"***). It is clear that the individuals interviewed take for granted the potential of a system more than they really test it, and often discover belatedly the offers and features available to them. Strengthening the use and integration of new technological media requires this ability to project oneself and to appraise one's own strengths and weaknesses.

MS5: "***Actional***" strategies oriented to the organization and perpetuation of one's memory of one's work. Transliteracy aims at adopting procedures for processing personal content for later use in new professional and/or learning situations.

MS6: The ***ability*** to stand back from one's own daily, and sometimes even "mechanical" and systematic, reception of information. Several studies show that media users eventually get locked into multiple repetitions without discerning what could be done differently (an effect called the "tunnel" effect). Stepping back means that information may be received otherwise and new techniques can be used that are flexible and not repetitive.

MS7: The technologies and technical devices are calling more and more on sensory, physical and aptic clues. Alan Liu (2012) points out, for example, the impact of the visual culture in defining and understanding the informational transliteracy. Schools, universities and companies will likely have to reinforce training and help in the identification and control of the sensory cues and physical media spaces at our disposal.

MS8: The last MS is anthropocentric and consists of the assessment of how to identify and characterize one's own cognitive styles[10]. To what extent are we dependent or not on the field of technology and media? Do we respond individually by impulsivity or reflectivity? Do we centre our gaze or rather scan during reading on the screen, etc.

In conclusion

The transliteracy approach is currently in its infancy. However, it has two major trends. Transliteracy is centered on a radically ecological position, consisting constantly in questioning one's own actions and the influence of environments (technical, organizational, informational) on oneself. Transliteracy basically means questioning one's own activities in the field of information and communication. In addition, it requires an autonomous self-analytic attitude to one's ways of doing things, where one should be ready in principle to "detach oneself" in an attempt to explore unknown technical and info-communicational forms. Hence the interest in the research on literacies and the value of comparing the protocols and results of our respective observations.

[10] Cf. the researches of H. Witkin, S. Paper, J. Kagan or J. Bruner.

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Literacy in Social Media Environments: Time to Abandon or Re-Examine Information Literacy?

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Terminological and definitional assumptions about information literacy

Information literacy (IL) is an extensively discussed, divergently defined but without doubt a commonly accepted concept, at least in the LIS field. Hardly any librarian would dispute its importance. Nevertheless, previous to attaining this current significant position IL went through a long-lasting process of growth in theoretical and applied understanding characterized by numerous terminological and conceptual contradictions (Shapiro and Hughes, 1996; Snavely and Cooper, 1997; Bawden, 2001; Mackey & Jacobson, 2011) which persist despite the view that IL is characterized more by convergence than by divergence (Owusu-Ansah, 2003).

A closer look at the overflow of IL statements shows that dilemmas and doubts rarely deal with the question what constitutes IL, but rather aim at critical views on IL as an "exclusive literacy", an umbrella concept and meta-literacy that subsumes all other types of existing and emerging "21st century literacies". Other competing concepts within the landscape of new literacies include computer, digital, web- or media literacy, etc., or more recently coined terms like participatory literacy, transliteracy, postliteracy, just to name a few. The appearance of new competencies and literacies required for contemporary living necessitates the widening of the scope of IL and deeper investigations of its relations to literacies of other types.

Discussions on whether IL as a set of abilities empowers users to cope with intricacies of newly emerged information environments became even more intensive with the advent of the Web 2.0 and social media. However, in order to make judgements about the (in)sufficiency of standard definitions of IL in the light of revolutionary social and participative technologies a closer look at the definitional core of IL is needed. Such a principal analysis reveals a conceptual framework characterizing all IL definitions regardless of the domain it emerged from or it applies to. This core encapsulates abilities to access, evaluate and use information. Essentially, IL provides individuals with a necessary framework for

gathering, interpreting, evaluating, and using information. This basic nucleus is clearly defined and documented in several widely accepted definitions. For instance, the highly cited American Library Association (ALA) definition determines information literate persons as those who "...*know how to learn because they know how knowledge is organized, how to find information, and how to use information in such a way that others can learn from them*" (ALA, 1989). The Association of College and Research Libraries (ACRL) defines IL as "*the set of skills needed to find, retrieve, analyse, and use information*" (ACRL, 2000) and accompanies this definition with a set of standards that outline the IL skills set. The Chartered Institute of Library and Information Professionals (CILIP*)* has defined IL as "*knowing when and why you need information, where to find it, and how to evaluate, use and communicate or share it in an ethical manner*" (CILIP, 2004). The generic core model for higher education adapted by the Society of College, National and University Libraries (SCONUL) defines the core skills and competencies (ability) and attitudes and behaviours that make an information literate person by using the verbs "identify", "scope", "plan", "gather", "evaluate", "manage" and "present" (SCONUL, 2011).

Regardless the depth and thoroughness someone applies in the analysis of core IL concepts proposed in different parts of the world, in different models and individual approaches, core elements are always centred around finding (including similar concepts of accessing or locating), evaluating (entailing critical judgement) and using (including communicating, sharing and producing). The claim that some other literacies, like new media or transliteracy are better responding to the rapid and ongoing changes and transformations caused by technology and social media needs to be questioned and analysed in the light of the described conceptual core of IL. Only then one can come to conclusions and answers about whether IL indeed lacks some competencies/elements crucial for new environments.

New information and media environments: time to abandon IL?

In the last decade a new version of the Web has emerged that has transformed many assumptions in the LIS field by blurring common perceptions about the very nature of information, knowledge, communication or interaction. A new environment emerged introducing completely different, highly user-centred and participatory approaches. User experience of information is determined by functionalities of social networks and systems like Facebook, Twitter and Delicious or services like weblogs or wikis. Those have transformed information experiences and user roles by making them information producers, creators and

co-creators. Diverse populations of users, new frontiers of information creation, organization, dissemination, services and provision are major challenges identified in this new "World 2.0", characterized by new technologies and societal developments (Allard, 2009). Major changes refer to the fact that users within this new environment influence the composition and design of systems and services by adding and organizing their own content. New information systems based on Web 2.0 application and services are shaped by user input and systems' responses are influenced by the search activities of former users (Špiranec & Banek Zorica, 2010). Such a profound change requires new practices, perceptions, attitudes and behaviours and raises the question about the kinds of literacies needed for handling challenges that characterize new environments. As these environments are transient, collaborative, free-flowing, unstructured and decentralized, what is needed are comprehensive understandings of information landscapes that put user in the position to critically evaluate, share, organize or communicate information and content.

Before testing the "vitality" of IL concept in new socially-constructed information environments it is important to look back and analyse the development and evolution of IL. According to Špiranec & Banek Zorica, IL has always been influenced and determined by developments and complexities in information environments (2010, p. 141). The concept itself appeared partly as the result of a growing heterogeneity and complexity of information, information resources and information structures. Although its beginnings are rooted in library user education, i.e. bibliographic instruction (the equivalent term used in the USA), IL gradually started to differ from it in the range of its attributes, e.g. principally through the shift of its focus on tools and the methods of using them towards concepts and problems, or from isolated instruction towards teacher-librarian partnerships (Špiranec & Banek Zorica, 2010, p. 141). In other words, IL within print-based environments has different functions, manifestations and addresses different issues than in e.g. digital or collectively-constructed environments. For example, the birth of the Web made it necessary for librarians to shift more towards teaching search strategies and evaluation of sources. The tool-focused "bibliographic instruction" approach was later replaced by the skill-focused "information literacy" approach (Farkas, 2012). Now, with the Web 2.0 and social media it makes sense to shift the focus of IL again, this time towards evaluation that is much more complex and layered than it was before, as well as towards socially- and community oriented dimensions of IL. IL research and practice needs to recognize that information and knowledge are socially produced and distributed, and that they can therefore be effectively accessed primarily through social relationships, as Lloyd (2006) has observed.

Transformations in information environments have also influenced the relations of IL to other kinds of literacies and stimulated disputes over

language, labels or the boundaries and limitations of different types of literacies. For instance, there have been extensive discussions on the relation between digital literacy and IL (Bawden, 2008). The term digital literacy was introduced as an ability to understand and use information from a variety of digital resources. With the explosion of online information, IL seems to overlap or even merge with digital literacy due to its focus on information emerging in digital environments. Similar points of convergence are also evident with literacies of other types, e.g. media literacy (Cortes & Lau, 2009), or transliteracy (Mackey & Jacobson, 2011).

It has to be said that the rationale of IL lies not only in digital, or print, or collaboratively constructed information but in the continuum of information artefacts, be they oral, digital, printed or collective in nature. Therefore, when definitions and elements of IL are analysed and taken as a variable for comparison with literacies of other types then it has to be said that IL is still important since its basic phenomenon, *information*, is the rationale for acquiring literacies of any kind, i.e. a prerequisite for individual and global well-being. However, there are some reasons to criticise and object existing IL practices.

Criticism over existing traditional approaches in IL is expressed by a range of authors. Several authors especially refer to the deep and complex relationship between IL and developments of participative Web 2.0 environments and label this relationship as *Information literacy 2.0* (Hapke, 2007; Tuominen, 2008; Špiranec & Banek Zorica, 2010; Farkas, 2011). Main issues that were identified in the debate about IL in the Web 2.0 environment refer to information overload, authority and credibility, erosion of information contexts, multiperspectiveness and negotiation, communities, new information genres, subjective and personal information organization, etc.

The preceding discussion shows that IL has changed its focus in parallel with transformations in information environments. However, the conceptual core focused on finding, evaluating and using has remained quite stable. The same claim can be made for changes that occurred within social media environments. In other words, new issues have emerged that will change some of the priorities in IL practices, but even in participatory and social Web 2.0 environments users still need to find, evaluate and use information. Nevertheless, some elements in the IL continuum have gained importance or are more complex, like evaluating and using/communicating/producing information. Prevailing IL practices however concentrate too much on finding information instead of prioritizing information evaluation or production. Therefore, the question is not whether IL as a concept should be abandoned, but whether IL practice and research should embrace a more holistic approach to IL. The contours of possible new approaches to IL will be described in the next section.

Information literacy for media-saturated environments

Web 2.0 and social media are shifting expectations in what it means to be an information literate person by prioritizing hereto neglected elements of IL. This is a result of shifts in information environments which are much less stable, centralized, structured or linear. In respect to this, issues like credibility and authority, communicating and producing information, creating online identities and in general social dimensions on IL should be raised in IL practices and research. Several of these issues are discussed below.

Fragile authority and fluid trust

Trust, credibility and authority are certainly not new themes. They also where discussed in pre-digital environments, but it was not before the Web and proliferation of online information that these issues represented a serious preoccupation. With the recent rise in social media and particularly user-generated content, these issues are becoming ever more important (Jenssen, 2011). The process of navigating socially constructed and decentralized information environments includes sites of information not stewarded by traditional information gatekeepers. New information genres like blogs or wikis, self-published items and digital conversations without clear markers and signs of authority determine every-day experience of contemporary users of information. Therefore, IL practices should focus more on evaluating information, not just in its traditional and common form (e.g. scholarly articles, web sites, etc.) but by including new information genres. The spectrum of issues is paramount, ranging from practices of (co)producing digital information, aggregation and putting content in new contextual patterns, and the appearance of new forms of ratings and comments (Facebook likes, shares, social bookmarks, ratings, etc.). A great deal of this information is detached from authority or credibility imprints and can only be scrutinized by popularity markers. Twists, tricks and pitfalls of determining authority and establishing trust in print-, online- and social environments should be a firm part of current IL conceptualizations.

Managing and organizing information

A second, hereto often neglected IL dimension has been management and organization of information. Again, with the rise of user-generated content questions of managing information are not any more a preoccupation of professionals, but of the average user as well. The creation of organizational structures through social tagging allows the organization of resources for oneself and others. Current IL practices should impart the ability to take part in user-oriented organizational practices and critically evaluate them instead of limiting its practices to introductions to controlled indexing languages. Social and collective practices of information organization are part of social media environments and therefore an important facet of relevant IL.

Communicating information

The necessity of stressing communicative aspects of IL was recently very well put forward by I. Hulvila who reminds the reader about an evident but often forgotten fact that besides reading, the notion of literacy embraces the idea of writing. However, in Hulvila's opinion, the concept of IL has often bypassed this connotation (2011). Instead of just running through diverse citation styles more time should be spend on explicating creation of information and how one can express him/herself within new information or media landscapes. This does not limit IL to making users understand the technical aspects of information production or creation but actually extends to discuss issues of e.g. online identities. IL activities should make users think about positive and negative aspects of contributing to digital conversations which has consequences for privacy and identity in the digital environment.

Social dimensions of IL

Generally it can be said that the Web 2.0 and social media environments have urged the need for a social perception of IL. Existing IL models and frameworks are dominantly concerned with documents; the centre of information activities and processes are documents and document-like objects that have to be searched, accessed, evaluated, used, etc. The user is seen as an individual working with documents or document collections. However, in contemporary environments users are discovering, evaluating, using and producing information within networks and communities. Humans and communities – in collaborative and participative Web 2.0 environments more than ever – function as information sources, filters, digesters and co-creators.

The social dimension of IL is crucial for analysing the initial question of this paper, i.e. whether IL is still relevant and meaningful as one of the "21st century literacies". Not IL itself is problematic, but a lack of social and collective and collaborative dimensions in finding, evaluating, using or communicating information. Instead of being conceptualized as an individual competence, its perception as a social, participative, communicative phenomenon is the precondition for IL to remain meaningful and purposeful in new social media environments.

Conclusion

Social media and the Web 2.0 have caused the outbreak of different phenomena, issues and problems. This has raised questions about the optimal set of competencies required for coping with these new challenges. Within this context, it is also legitimate to ask whether IL as a set of abilities/competencies is still sufficient and whether the contemporary challenges demand different capacities not covered by standard IL definitions.

A closer look at IL definitions reveals a conceptual core that is concentrated on finding, evaluating and using/communicating information, all of which stand up to challenges of current information and media saturated environments. Therefore, the question is not whether IL as a concept should be abandoned, but whether IL practice and research should embrace more holistic approaches that deal with all aspects of IL, not just with traditional library-oriented themes focused on searching for information. Nevertheless, traditional standpoints still prevail in practical approaches to IL that predominantly prioritize finding information instead of evaluating, communicating, producing information or simply promoting a deeper understanding of complex information and online social environments.

A crucial argument for explaining the need of re-conceptualization of IL is the fact that IL, in its central features, has always been influenced and determined by information environments. Therefore, it comes at no surprise that in parallel with the advent of Web 2.0 and social media, which have transformed information environments into complex and unstructured spaces, principal conceptions of IL are being re-examined and reshaped respectively. IL today, more than ever, should deal less with finding information and focus on evaluating, using and communicating it. Primarily, a holistic approach to IL in social media environments implies a shift towards social dimensions and practices in IL which determine discovering, evaluating, using and producing/communicating information. Without the recognition of social and collaborative dimensions, with all potentials and challenges these dimensions elicit, IL runs the risk of losing relevancy and meaning in social media environments.

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Seeking for a Common Methodological Basis for Media Education and Information Litertacy Theories

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We are witnessing now a coming closer together of two pedagogical trends – that of media education (media literacy) and that of information literacy, both of them having previously existed parallel to each other, and without actually crossing each other's path. This situation can be explained by the geneses of these two trends.

The concept of media literacy (media education) originated in fact back in the 1970s when the developed countries saw an overwhelming spread of television, the TV set became a well-known article of everyday life, so there appeared a threat for children and teenagers of a negative effect of the information broadcast from the TV screen[1]. It is important, however, to make a point of the fact that the very terms "media literacy" and "media education" co-existed for a long time in the West European and North American literature side by side with the terms "audiovisual literacy[2]" and "audiovisual education," both of which represented in their turn attempts to bring together problems associated with cinema on the one hand, and problems associated with television, on the other hand. Cited at an earlier stage was also the need for "cinema literacy" and "cinema education"[3]. A specific trend of "visual literacy" emerged in the English-speaking countries, the protagonists saying that children and teenagers should study non-verbal forms of communication[4]. It is important to note that the terminology used reflects the fact that in the field of pedagogy the accent is put on the study and adaptation of phenomena that are linked to screen varieties of information transfer, to visual and audiovisual materials that started to grow increasingly in number by the mid-20th century. When speaking about media education, researchers used to accentuate more often well until the end of the 20th century exactly the role

[1] See: Houk, A., Bogart, C. (1974). Media literacy: thinking about. Dayton, Ohio: Pflaum/Standart; 1974 Media education. (1984). Paris, UNESCO, etc.

[2] See: Audio-visual literacy: proceedings of 6th Symposium on Broadcasting Policy. In: B.Luckham (ed.) (1975). Manchester: University of Manchester; Bibliography of research in audio-visual education and mass media, 1930–1950 / compiled and edited by L.C. Larson, Charity Eva Runden and the Seminar in Audio-Visual Materials. Bloomington, Ind : Indiana University, Audio-Visual Centre, 1950; etc.

[3] See: Gessner, R. (1968). The moving image: a guide to cinematic literacy. N.Y. : E.P.Dutton.

[4] See: Waters, W. (1946). Visual education, some notes. London, British Film Institute; Fransecky, R.B., Debes, J.L. (1972). Visual literacy: a way to learn – a way to teach. Washington : Association for Educational Communication and Technology, and others.

of the audiovisual means, the importance of their understanding, interpretation and usage. It is notable that, in parallel to the interest displayed in visual and audiovisual forms, there emerged in the pedagogical science, as early as since the 19th century (or may be even earlier), directions based on creation of printed editions, i.e., newspapers and journals by children[5].

The concept of information literacy was shaped in a different way. It was formed in the 1980s in the context of the informatization being undergone by various educational processes[6]. Its sources should be sought, on the one hand, in the library science, including its parts that deal with the study of the systems and forms of public use of printed matter and with organizing the search for requisite publications, and on the other hand, they should be sought in informatics as the branch of learning which shapes computer literacy, a concept dating back to the 1970s[7]. Subsequently, as the information infrastructure of society developed, it became clear that the principles underlying information search, its understanding, and its subsequent use, are also of a broader nature, the factor becoming ever more topical with the development of computer and Internet technologies. But, unlike the branches of cinema education and audiovisual literacy, and, later, unlike media education, the concept of information literacy was dominated by orientation towards verbal forms in information presentation, primarily textual and digital forms.

The methodological theory bases of the two fields under consideration were substantially different too. The branches of cinema education/visual and audiovisual literacy/media education were vaguely gravitating to a greater degree towards the traditions of art criticism, cultural studies and social analysis, whereas the branches of computer literacy/information literacy were gravitating towards the traditions of mathematics, cybernetics, logics and linguistics. And there has also been an important branch that is of interest to both fields, that branch being semiotics.

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[5] See: Гонне Ж. Школьные и лицейские газеты. – М.: ЮНПРЕСС, 2000; Дьюи Дж. Школы будущего. – Берлин, 1922; Русская детская журналистика (1785–1917). – Л.: ЛГУ, 1978. One recalls here the amateur newspapers and journals issued early in the 19th century by the Tsarskoe Selo Lyceum's students (including the great poet Alexander Pushkin). Similar processes took place in other countries as well.

[6] See: Breivik, P.S., Gee, E.G. (1989). Information literacy: revolution in the library. New York : Amercan Council of Education : Macmillan; London : Collier Macmillan; Information literacy and education for the 21st century toward an agenda for action, 14–16 April, 1989, Leesburg, Virginia : a symposium / sponsored by the U.S. National Commission on Libraries and Information Science and the American Association of School Librarians, a division of the American Library Association. Washington, D.C. : The Commission ; [Chicago, Ill.] : The Association, 1990; etc.

[7] See: Moursund, D.G. (1978). Basic programming for computer literacy. New York : McGraw-Hill; Goddard, W.P., Wright, A.E. (1979). Computer literacy in the schools of B.C. : educational computing. Victoria, B.C.: Province of British Columbia, Ministry of Education, Science, and Technology etc.

Why was it that there have emerged signs of coming closer together between the phenomenon of media literacy (media education), on the one hand, and the phenomenon of information literacy, on the other hand? In my view, we can identify here at least two reasons. The first one is of instrumental character, brought about by technological processes taking place in the modern world. The development of computer systems, Internet technologies and the opportunities offered by mobile communication – all the things that they tend to describe in general now as "new media," – results in a new quality in the traditional means of information communication[8]. There have appeared electronic books, newspapers and magazines, electronic audio and video recordings, which all came to be known as multimedia materials. Radio and television broadcasting centres all over the world are switching over to digital formats to carry over their signals and are using computers and Internet as their channels of communication. All these processes are shaping the new quality of the media environment in which information is stored and permanently brought forth in multimedia forms. Figuratively speaking, the computer, Internet, and mobile devices – all have solemnly been admitted into the media family. And this is why secondary school informatics has actually turned into a study subject that provides for media literacy, or, to be more exact, for certain aspects of media literacy. As to Internet, it requires at all times the efficiency in searching information and the skill in selecting, analyzing and transforming it. It should be taken into account that information exists not only in a text form but also as audio files, video files, photos, as well as other non-verbal forms. And all those need information search skills, which have traditionally been the purview of information literacy.

The second reason is of substantial character. Media education of the 1970s–1980s was oriented to a greater degree towards perception, analysis, and interpretation of media texts, chiefly of audiovisual nature. It was seldom that school students had the conditions in order to create audiovisual materials, simply because they did not have the requisite equipment at their disposal. In difference to the preceding generations, most school students of the 21st century do have mobile equipment at their disposal including photo and video cameras, microphones and Internet access. Creation of audiovisual materials has ceased to be a task that is difficult to achieve. Hence the ever growing number of photo- and video materials, and audio recordings – all downloaded in the Internet, sent over to friends every minute, all of which calls for the skills of operating information. This is yet another factor which calls for yet closer drawing together of information literacy and media literacy.

[8] It is noteworthy that the earliest book in English (the National Congress Library, USA) carrying the words "new media" is dated by 1947 and implies television: Made for millions; a critical study of the new media of information and entertainment.(1947). Ed. by F Laws. London, Contact Publications..

So, when examined from the viewpoint of practical use, the need for mutual approximation of the two pedagogical trends, those of media education and information literacy, becomes almost evident. A theoretical synthesis of the two seems not that evident. The difficulties begin at a stage that is given little attention to by the pedagogue, that of the definition of the fundamental notions. There are at least two such notions here: "information" and "media." Strictly speaking, a unified conceptual basis can only be built if we use common theoretical methodology bases. But those turn out to be substantially different.

The notion of information

This notion is one of a universal character. It is widely used by all sciences without exception. But built into the foundations of the two scientific directions are polar information concepts[9]. When we speak about media education, the theoretical platform is usually represented by the concepts of mass communication and mass information, where the stress is put more on the social properties of the notions. But it has been observed more than on one occasion that both these concepts are experiencing a crisis. Beginning in 1980 when Toffler's "The Third Wave"[10] was published, the notion of "MASS" has been going through an evolution. Toffler showed that the transition from the industrial society to the postindustrial society, that is – to the information society – shall be accompanied by the phenomenon of "demassification", hence, by the removal of the categories linked to the notion of "mass", including those of "mass information" and "mass communication." The idea was picked up by researchers of mass communication. During the past twenty years, starting with Turow's On Reconceptualizing "Mass Communication"[11], a discussion has been steadily going on on the subject of how much the theory of mass communication is relevant to the modern state of the mediasphere and of society as a whole. Writing in this signal article, the author offered to substitute the term *mass communication* with the term *media communication* for the purpose of describing a wide range of phenomena related to the technologically mediated communication. Almost a decade later, other authors, Chaffee and Metzger, wrote a no less notorious article with the catchy title of "The end of mass communication?" which caused repercussions among scholars[12]. This means that media education

[9] The author deliberately avoids trying to do a review of the existing definitions of "information" as they are too manifold and the paper format does not allow for it.

[10] Toffler, A. (1980). The third wave. New York.

[11] Turow, J.(1992). On reconceptualizing "mass communication". Journal of Broadcasting & Electronic Media, V.36(1), p. 105-110.

[12] Chaffee, S.H., Metzger, M.J. (2001). The end of mass communication? Mass communication & society, 4(4), p. 365-379.

as such must adopt the new concept, the concept of media communication which studies both mass, as well as non-mass, forms of communication[13]. It is not clear so far as to how information must be understood in this context.

In the fields of computer/information literacy the category of "information" is considered in a different context, in the traditions of cybernetics and the mathematical theory of information, ascending to the works of Norbert Wiener, Claude E. Shannon, Warren Weaver, and others[14]. The attention is concentrated here on issues relating to control over certain processes with stress being put on the universal character of the category of information which is broadcast in a number of system types – anthroposocial, biosocial and technosocial. Strictly speaking, it is logically impossible to relate cybernetic and mathematical ideas of information with the category of mass information, due to the principled differences in the methodological bases of the notions.

We run at this point against the deeply rooted problem of the contemporary information science, a problem which exists in several guises but rests upon conceptually differing foundations of philosophy methodology. Suffice it merely to innumerate some of the theoretical approaches to the study of information in order to understand how complex the situation is, and they are as follows: informatics, informatiology, informodynamics, informology, cybernetics, mathematical theory of information, semiotics, etc. An umbrella theory of information to satisfy everyone and to unite the above-listed branches is so far non-existent. The question arises: may be we are trying to denote with the one single word "information" different substances which are relating to one another to an insignificant degree? We do not have an answer so far.

The notion of media

We identified already in this text a nascent transition from the concept of mass communication to the concept of media communication. The theory of mass communication provided quite a hazy reply to the question of what media are. In the scholarly literature of Russia and other countries the following words, word combinations and abbreviations were unjustifiably used as synonyms: MSM, SMK, media, mass media, etc.

Media communication presupposes presence of a means of mediation that is external relative to man. This is exactly the idea that is rendered by the term

[13] More on this issue see in: Шариков А. В. О необходимости реконцептуализации медиаобразования // Медиаобразование, 2012 №4. – С.61-76.

[14] See: Wiener, N. (1948). Cybernetics. MIT Technology Press; Claude E. Shannon and Warren Weaver: The Mathematical Theory of Communication. The University of Illinois Press, Urbana, Illinois, 1949; etc.

"media" which is of Latin origin. ***Media*** is the plural of ***medius*** which has quite a broad semantic spectrum with the central meaning being that of "one that is placed in the middle of", "middle" (adj), "of the middle" (adj). We should pay attention to the following among some dozen meanings of the word ***medius***: "interim," "general, public, of general access," "equivocal, indefinite," "mediating, acting as a mediator». By our putting accent on the word "media," we highlight the media's mediating role, their general accessibility and their ambiguity.

The word "media" means in our context technical means of communication. Those may be equally meant for interpersonal, personal-and-group level, or mass levels. To accentuate the mass level, the word "mass" may be added. This results in "means of mass communication" (in Russian) or in "mass media." Regretfully, the terms "media," "means of mass communication" or "mass media" are so often used interchangeably in scholarly literature. In actual fact, only the pair of "mass media" and "means of mass communication" are true synonyms. As to the pairs of "media" and "means of mass communication", or "media" and "mass media" – these are related as a whole and a part of it. Any "means of mass communication" (mass media) is "media", but it is not every media that is a "means of mass communication", since there exist forms of media which are not mass in their character.

A stll geater confusion is seen when we try to compare the terms "means of mass communication" and "means of mass information". We cannot but recall here the long-standing discussion on the issue which has been going on in Russia for almost half a century now. During the 1960s–1970s when means of mass information were understood in the USSR, in the first place, as an instrument of political propaganda, and when widely used was the term "means of mass information and propaganda" (SMIP), many Soviet scholars ascribed special significance to the term "means of mass communication", in which they saw for some reason a certain humanistic significance as alternate to the propagandistic beginning. The opposition of "antihumanitarian propagandist/humanitarian" gave way in the late 1980s to counterposing the term "means of mass information" to the term "means of mass communication," now with no longer the propagandistic tinge to it. During that period of time the term "means of mass information" was understood as a category of sociohumanitarian character and was counterposed to the technical term "means of mass communication" where the word "communication" was interpreted as a synonym to the word "connection." There emerged a semantic opposition of "humanitarian vs. technological."

A new aspect in the understanding of the terms "means of mass communication" and "means of mass information" was evident in the late 1980s–early 1990s. That was the time when the USSR was drafting its law "On means of

mass information" which became effective in 1991. That was when attention was brought to a fundamental property of the means of mass information, which was periodicity of publication. A newspaper or a magazine will not be considered as such if they are not published periodically. The same property – periodicity – is also found both with radio and with television. This understanding found its expression in the latest version of the Federal Law of the RF "On Means of Mass Information" where Article 2 provides the following definition: "*understood as a means of mass information is a periodically printed publication, a radio, television or a video programme, a cinema newsreel programme, or any other form of periodical broadcasting of mass information*."[15] The law establishes also the standard of regularity starting with which a publication becomes a means of mass information – the publication must be a periodic one issued no less than once a year. The law does not say anything though about means of mass communication. But it follows from the general theoretical constructions and from the definition provided in the law on means of mass information, that means of mass communication and means of mass information are related as a whole and a part of a whole: a means of mass information is a periodical means of mass communication in a situation where there exist in addition to them numerous aperiodic forms, such as onetime large-scale editions of books, brochures, audio and video recordings, billboards, and Internet sites without periodical renewal, etc. Thus the interpretation of the term "means of mass communication" has once again acquired a socio-humanitarian direction. Due to the appearance of the new interpretations of the means of mass communication and of the means of mass information, we began, in order to define the technical and the technological aspects of the process, to employ the term "means of communication" or "means of telecommunication" (only with regard to radio and television, and, later, with regard to Internet).

If we bring together the two highlighted factors – the number of people covered by any means of communication and the property of periodicity – we obtain the following picture. We face in the Russian language the phenomenon of underdeveloped terminology which covers three situations only. One, this is mass periodical communication which has a name for the means used – and this is means of mass informationion. Two, we have mass communication as a whole, in its periodic, as well as in its aperiodic, segment; the means that are used here are means of mass communication, or mass media. Number three is any form of media communication as a whole, both periodic and aperiodic, addressed to any number of people for whom the technical means used are named as means of communication, or media.

[15] Law of The Russian Federation on Means of Mass Information (No. 2124-1 of December 27, 1991). Russian text at: http://www.zakonprost.ru/zakony/o-smi (Accessed 12.02.2013).

One has the impression that the researchers of information literacy would not pay attention to the subtleties that are described above because they did not base their research upon the concept of mass communication and its means. As a rule, computers are not considered as means of mass communication, let alone Internet which is even looked upon as a metamedium in which both mass and non-mass forms of communication are possible. This is why the term "media" is perceived differently in this context. It tends rather to be associated with the word "muiltimedia," which points to possibility of semiotic combinations when we create and place materials in Internet and when written and printed forms of text are combined with sound elements, photos, drawings and video recordings – all in one digital platform.

Summary

The theoretical-methodological platforms of the two pedagogical trends which have signaled a trend towards coming closer together with each other – media education (media literacy) and information literacy – do differ to a considerable degree, since they have different geneses. The search for a common and unifying theoretical platform is not an idle pastime undertaking. Which foundations should be used for a unification? The short analysis presented in this paper allows us to see at least two theoretical avenues which may be put together to form a common ground. One, this is semiotics (or semiology), the science of the study of signs and sign systems, which is equally interesting for media education and for information literacy as the trend. Two, this is the concept of communication as it is understood in the humanitarian sense – as a process of notional interaction. It remains to be seen in the future if there comes about an organic unification of the two pedagogical trends upon a single theoretical basis.

The Problem of Integrating Information and Media Literacy: Russian Context

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Challenges and risks of information society

Information society opens for one hitherto unseen possibilities for access to information and knowledge. At the same time information society carries with it numerous risks and dangers. Facing huge volumes of contradictory and heterogeneous information, individuals are experiencing ever growing difficulties in finding their bearings, in obtaining information and processing it. The power of the contemporary information technologies breeds the danger of manipulating human conscience and behaviour, it poses the danger of bringing about dehumanization. That is why today people should command a special type of literacy – media and information literacy.

A considerable contribution to solving the problem of media and information literacy is being made by IFLA and UNESCO. These two organizations have initiated numerous conferences and meetings and published guides and textbooks in information literacy and in media literacy.

These joint efforts resulted in the adoption for international usage of clear definitions of “media literacy” and “information literacy.”

Mastering information literacy implies the knowledge of various types of documentary information resources, including texts both in printed and electronic forms (books, articles, patents, theses, reports, etc.). Mastering media literacy predicates upon special objects – media texts (cinema films, television programmes, videos, etc.) which require command of special methods of analysis (contextual, structural, topical, autobiographical, iconographic or semiotic analysis, analysis of media stereotypes, analysis of media text characters, etc). What unites modern individual’s information literacy and media literacy is computer literacy and ICT skills, the ability to critically evaluate information regardless of the format of its presentation, be it written or oral, conventional or electronic, visual or verbal.

Until very recently, the two fields of knowledge – "media literacy" and "information literacy" – were pursued independently, in parallel to each other, and without actually crossing each other's path, as they were handled by specialists of various occupations, including school and college teachers and university professors, librarians, media educators, and journalists.

Over the past few years UNESCO and IFLA have advanced the idea of integrating media literacy and information literacy into a single concept of "media and information literacy."

UNESCO and IFLA host various international meetings, forums and conferences, whose participants elaborate a conceptual basis for integrating media literacy and information literacy. We see among those the following: Expert Group Meeting "Development of Media and Information Literacy Indicators" (Bangkok, Thailand, November 2010), First International Forum on Media and Information Literacy (Fez, Morocco, June 2011), Expert Group Meeting on the Adaptation of the UNESCO Media and Information Literacy Curriculum for Teachers (Moscow, Russian Federation, December 2011), European Meeting on Media and Information Literacy Education (EMMILE) (Milano, Italy, February 2012).

Concepts that are put forward during these conferences, find their reflection in adopted declarations, manifestoes, recommendations, etc. Among the most important international documents reflecting the idea of integrating media literacy and information literacy, we find, for example, the Fez Declaration on Media and Information Literacy, IFLA Recommendations on Media and Information Literacy, etc.

Proceeding from various international documents, UNESCO and IFLA initiate preparation of teaching aids and guides, which, in their turn, make it possible to put into practice the idea of integration of the two types of literacy. They become instrumental in organizing mass teaching of media and information literacy to population, primarily to young people.

An attempt to find an answer to the question "How can we practically integrate media literacy and information literacy?" is reflected in the teaching aids created recently at the initiative of UNESCO. They are UNESCO Media and Information Literacy Curriculum for Teachers (2011) and Online Handbook on Media and Information Literacy published by the UNESCO Institute for Information Technologies in Education together with the Finnish Society on Media Education (2012).

In order to put into practice the idea of integrating media literacy with information literacy, each country must first understand and evaluate the available experience and traditions of the national systems of education and culture, both of which affect significantly the development of information literacy and of media literacy.

We will try to describe briefly the sources of the origin, the status quo, and the key problems of media and information literacy development in Russia.

Sources of information education and media education in Russia

As it is well known, the ages of the information literacy and of the media literacy differ substantially. The information literacy in Russia is rooted in the remote past of the country. It is associated with the origin of the Slavic writing and the development of book industry in a history which is almost one thousand years old and which has rich traditions of its own. Ways of finding the book and using it have always been taught in Russian libraries, and education institutions have taught of the ways of extracting, understanding, and interpreting information.

Media literacy is an attribute of the edge of the 20th and 21st centuries, an attribute of the modern times. The need for media education was increased even further with the development of the so-called "new media" or electronic (network) mass media (Internet, online television, online radio).

Specific features of Russian terminology in information literacy and in media literacy. The concept of personal information culture

While in the field of media education and media literacy the Russian terminology coincides almost completely with the international terminology, which uses the English language, in the field of information education the situation is quite different. Unlike the international practice, the term "information literacy" has not become widely spread in Russia. One of the causes for it is psycholinguistic. In Russian the word "literacy", meaning the ability to read and write, is only associated with the most simple and initial level of education. This is why the term "information literacy" carries involuntarily a shade of something that is elementary and primitive. In Russia the terms of "information culture" and "personal information culture" are preferable, which both reflect the complicated phenomenon of interaction between society and information, and between a person and information.

In order to explain the meaning of the notion "personal information culture", we may resort to an image of a tree whose roots represent the traditional information literacy plus the literacy in the sphere of information and communication technologies (the ICT literacy), the trunk representing the information outlook, with the fruit being individual's ability to create a new information product and to use it in a creative way for a number of purposes.

Similarity between personal information culture and information literacy consists in both notions being aimed at developing human capability of obtaining, evaluating and using information presented in any form and by way of various

technical means (technologies). The notion of "personal information culture" is broader than the one of "information literacy". In addition to the ability to receive, evaluate and use information, it includes also a motivation component and information outlook. It is linked inseparably to the sphere of culture and is directed against confrontation between the two opposite cultures that are present in the information society – the technocratic culture and the humanitarian culture.

Generally speaking, the approaches to information education present in the Russian science and in the Russian practice, are quite compatible with international approaches. The differences between the ideas for shaping personal information culture, that are developed in Russia on the one hand, and the international concept of information literacy on the other hand, are not of fundamental nature. They reflect merely the desire of the Russian researchers and practical specialists to combine the advantages of the international theory and practice with the traditions of the national culture and education, with the experience accumulated by Russian libraries and educational system.

Channels to promote information education and media education in Russia

In order to present the state-of-the-art in the sphere of media and information education, we provide a brief description of the activities of educational establishments, libraries, and occupational associations of public organizations.

Educational establishments

Compulsory information training is carried out in Russia in the schools of general education through a subject that is called "Computer Fundamentals." The training is further pursued in the secondary education colleges and in the institutions of higher learning through courses of "Basic Informatics", "Information Technologies", "Computer Technologies", etc. All these training courses are meant to eliminate computer illiteracy and to show the applications of computers in various fields. The tasks of these courses, however, do not include development of skills of navigating in specialized data arrays, ability to master the methods of critical evaluation of information, of independent creation of information and media content.

Unlike information training, media education is not compulsory in the system of education and is optional for one's studies. In addition to the schools of general education, media education programmes are pursued in the system of optional training (as practiced at centres and clubs for child and teen development) and

at leisure centres (houses of culture, extracurricular activity centres, centres for aesthetic and art training, local children's clubs, etc.).

As of 2002, Russian pedagogical training institutes introduced the subject of "Media Education" to prepare media pedagogues.

Libraries

Having numerous sources of information in their stocks, libraries practice teaching citizens how to find, and work with, different types of information, mostly documented information. To this end, reader conferences are held, as well as consultations in information search, excursions in libraries, book expositions, library lessons, information contests, tournaments, etc. Over the past few decades libraries in Russia have taken efforts to organize focused information instruction for visitors by introducing independent study courses in basic personal information culture.

Professional associations

A considerable contribution to the promotion of media education in our country is being made by the Russian Association for Film and Media Education. The Association initiates research activities and organizes scientific conferences and seminars in media education. A network of media education centres is being developed in various regions of Russia, and electronic resources of media education are being created, including specialized portals, sites and electronic magazines.

Promoting information culture among the citizens of Russia is being assisted by the Russian Library Association (RLA). The RLA has published a document entitled "Model Standards for Public, Children's, Youth and Specialised Libraries of the Russian Federation" which has a section devoted to "Developing User's Information Culture." The document treats the development of information requirements and information culture, and of the entire local populations, as an independent trend in the library activities, the text being complemented with a list of specific measures and events, which are considered as mandatory.

The Russian School Library Association has performed an important social contract. It has initiated a decision of the RF Government, which introduced a new position in the school libraries in Russia, that of a "Librarian Pedagogue". The duties of the librarian pedagogue include the task of shaping the information culture of the school students.

Russian UNESCO IFAP Committee's contribution to the promotion of information and media literacy

An important contribution to the promotion of information literacy and information culture is being made by the Russian Committee of the UNESCO Information for All Programme. It coordinates the activities by Russian libraries and educational establishments, research groups and individual researchers, working in the field of information education of citizens, thus promoting a most important priority area of the Programme – that of information literacy, and developing further the national traditions of shaping personal information culture. Following the initiatives of the Committee, conferences, seminars, information and educational events and other meetings, are held to discuss problems of information literacy and information culture. The Committee's activities also include collecting, systemizing and analysing topical publications and documents issued by Russia, UNESCO, the UN and other international organizations, dealing with humanitarian issues in the shaping of the global information society, and development of information and media literacy in particular. These publications are translated and published in the Russian language in printed and electronic form and freely distributed among federal and regional libraries, educational establishments, and science and information centres all over Russia.

Problems of information education and media education in Russia

Information education and media education are developing now in our country in parallel to each other, virtually with no interaction between the two. We cite here their most acute problems which are calling for solution.

Russia **lacks now a comprehensive state programme in the sphere of media and information literacy.** It is detrimental to the results of the practical work being done. It should be pointed out for the sake of comparison that state programmes are available in the country for other types of literacy. For example, the State Programme for raising the level of financial literacy of the population (2011–2015) is being implemented in Russia, and funds for it are alloted from the state budget. In order to develop literacy in legal matters, the President of the RF approved on May 04, 2011 a document, entitled "The basic state policy of the Russian Federation in the field of legal literacy and legal consciousness development."

Another problem is **lack of a comprehensive approach to understanding the essence of information education and media education.** Information

education is understood in an unjustifiably narrow sense. Not only in the mass conscience, but also at the level of the Ministry of Education of the RF, it is largely associated with computer literacy and ICT literacy. The idea of integrating information literacy and media literacy, and the basics of information education and media education, are not yet known sufficiently widely in the Russian society.

The optional status of media education in the educational institutions and the amateurish character of information education in libraries represent yet another problem.

Seen as no less important is the need for resolving the problem of **the lack of high-qualified personnel capable of teaching media and information literacy** to various categories of citizens. School teachers, university-level faculty, and librarians are better prepared for this type of pedagogical activity. Advanced training and continuing education, however, are still required for specialists of these categories.

And lastly, yet another, and substantial, obstacle is seen in the **insufficient supply of modern educational materials,** including electronic text-books needed for teaching information and media literacy.

National tasks in the field of information education and media education

We see the following national-level tasks in the field of information education and media education:

- development of priority national and regional programmes of information education and media education;
- development of national standards for information education and media education;
- inclusion of information literacy (information culture) and media literacy into the curricula of educational institutions of all levels.

Solving these problems should be based upon the international experience of integrating media and information literacy. Of great value is, for one, the first experience of such integration as represented in the UNESCO Media and Information Literacy Curriculum for Teachers.

Media and information literacy, the key concept of the Curriculum, is treated as an “umbrella term.” The idea of integration, synthesis, of the two notions is provided for owing to overcoming the fragmentary and disparate character of

the knowledge in the field of working with information presented both in print and digital form, owing to acquiring wholesomeness and completeness of the notions of information and of media.

Russia does not stand aside of the new initiatives on the part of such authoritative international organizations as UNESCO and IFLA. In December 2011 an international Expert Meeting was held in Moscow to discuss the adaptation for Russia of the UNESCO Media and Information Literacy Curriculum for Teachers. The meeting was organized by:

- the Federal Agency for Press and Mass Communications,
- the UNESCO Office in Moscow,
- the Russian Committee of the UNESCO Information for All Programme,
- the Interregional Library Cooperation Centre,
- IFLA Information Literacy Section.

The main tasks of the meeting were: discussing the issues of adaptation and pilot launching of the UNESCO Curriculum in educational institutions training teachers and librarians in Russia; elaborating recommendations for organizing the respective activities in Russia; assisting in the elaboration of optimal solutions in the topical area for both developed and developing countries.

Recognised experts in the field of information and media took part in the meeting. Proceeding from the decisions of the Meeting, the UNESCO Office in Moscow initiated a translation and scholarly editing of the Russian text of the UNESCO Curriculum.

Being one of the scholarly editors of the Russian text, I shall name the main tasks of the adaptation of the Curriculum to the Russian realia:

- elimination of the imbalance between the media literacy and information literacy modules;
- introduction of an information culture module;
- selection of local and regional information resources and examples corresponding russian context;
- compilation of a list of literature in the russian language;
- editing the glossary and supplementing it with new terms and definitions.

Conclusion

It should be noted that integrating media literacy and information literacy is a complex and multidimensional problem. It includes at least the following three aspects:

- **organizational aspect** – including adoption of state programmes for developing media literacy and information literacy;
- **scientific research aspect** – implying studies of the mechanism of integration of media literacy and information literacy;
- **pedagogical aspect** – implying the validation of the best practice for teaching media and information literacy to various categories of students.

This manifold problem calls for uniting efforts of politicians, scholars, teachers, librarians and journalists, both at the international and national levels.

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Mediapolis as a New Environment for the Media Person

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Building new ideas and projects in the sphere of media literacy now means realizing modern fundamental trends in media behavior of the so-called common man as well as in human communities' relations with the media. Existence in the media world represents a daily practice to which our contemporary is accustomed and in which he easily navigates – not only in a technological dimension, but also from the point of accepted rules. Regular sociology statistics supports this conclusion. According to the data by the ZIRCON Research Group, in September, 2011 39% of Russians demonstrated a high level of media literacy (knowledge and understanding of the media environment and skills of behaviour in it), in comparison with 31% demonstrating a low level (the situation looked worse two years ago with 31% and 23% correspondingly). Thus, in 2011, 62% of respondents were sure that an individual is able to understand information flows without assistance, and separate reliable information from information "dust" (Media & the City Workshop). Even if this opinion contains a deal of overestimated self-representation, it all the same testifies of our contemporaries' high level of adaptation to the newest media life conditions.

The rapidly changing realities give a stimulus for searching for nontraditional approaches to the increasing role of the media in human communities' living. This brand new situation is best reflected in the title of Roger Silverstone's monograph "Media and Morality: on the Rise of the Mediapolis". This bright intellectual image (the Mediapolis) incorporates multidimensionality and real depth of the occurred changes. Silverstone gives the following explanation to his choice of a vector of reasoning on a present society and the person within it:

"We have become dependent on the media for the conduct of everyday life... Indeed, in simple and commonsensical empirical terms, it is quite clear that the media are not, cannot be, everything. Life is lived outside the media and for many, if not statistically most, around the world, the media, at least many of them, are absent, unavailable, irrelevant... Life is lived, in families, organizations and states without references to the media. We live. We die. My argument presumes all this. But it also insists on the significance of the media for our orientation in the world... in ways unimaginable before the electronic age" (Silverstone, 2007, p. 5-6).

This substantiation of the author's position attracts attention due to, on the one hand, balanced estimations of the occurred changes (without demonization

of the media channels which is typical of a number of publications) and, on the other hand, the intention to search for solutions for fundamental questions in everyday activity of a person and society, and not in external factors (like politics and technology). It is remarkable, that the correlation of the media and morals is included into the name of the book – "Media and Morality".

Other scientists also reflect on this phenomenon though using different terminology. "Thinking about the Communicative City" – that is how a Dutch professor Cees Hamelink has titled his report at a large international forum (Hamelink, 2011, p. 31). Media & the City Workshop was organised in 2012 at the Catholic University of Milan, Italy. The agenda was defined by some key issues: media representations of cities and social processes; cities as spaces for media usage and the influence of media in the experience of cities; the presence of the media in the urban contexts and social processes; impacts of media enterprises on urban contexts, etc. The Moscow State University gathered experts to discuss the problem field of the Communication Structure of Modern City (2012). Spectacular/Ordinary/Contested Media City symposium should be held in Helsinki (2013). At the same time, several projects have appeared, like the Mediapolis project carried out in Singapore (also known as "Media City"). This Mediapolis physically exists as a government company, a special area within the "big" city, and a complex of industrial enterprises. Administrators of the project inform:

"Mediapolis is the realisation of a vision: a media-centric city built to inspire creativity, collaboration and connectivity – where state-of-the art infrastructure, an active community of innovators and creators, and a collective spirit of enterprise make Mediapolis a place where ideas flow, flourish and thrive… Mediapolis is where digital media connects with the community in fun and tangible ways..." (Our Media City).

Some other researchers supported the idea of the Mediapolis as an original form of civilization and expanded its interpretation. They especially emphasize two related phenomena that are to some extent exemplary of the contemporary human condition: "first, a notion of media work as a set of behaviors, strategies and tactics, norms and values that co-determine with technology the outcome of the production of culture within and across media industries (such as journalism, advertising, television and film, digital games). Second, an appreciation of media work as a range of activities and social arrangements that a growing number of people – and the majority of teenagers – enact in the context of contemporary digital culture … that is: using media as media producers rather than or next to media consumers" (Deuze, 2009, p. 23-24).

In the context of media research the main task is switching attention from media institutes and professionals to the "ordinary" person actively dealing with the media (and sometimes being forced to do it beyond his desire and consent). From these point an important addition to the expressive metaphor of the Mediapolis arises; namely, in our opinion, the concept of **"media life"**. Correspondingly to Silverstone's concept, media life is not opposed to the traditional understanding of "usual" life, but becomes its integral and major part. At the same time it goes according to its own laws and rules just like life in other spheres (economics, family environment, politics) which have their own regulations, customs and standards.

A high-degree ability to meet the qualitatively changed situation is required of science; at least, society may expect for a noticeable growth of interest to the so-called audience's behaviour in the media sphere (though traditional understanding of the audience as a set of information consumers seems to be losing sense in the coming years). Meanwhile the majority of experts consider politics and technological revolution as key factors of radical transformations in the media. Similar conclusions may be found in numerous sources, both domestic, and foreign. Such a solution for an intellectual problem does not seem to be profoundly full and correct. When regarded from political and technological viewpoint, public consciousness does not get adequate understanding, especially as an environment which forms ground for personal communication activity. It is much more connected with history, cultural science, and social psychology, which now stay on a wayside of interdisciplinary research practice.

In order to understand the situation of the Mediapolis and media life a qualitative increase in development of fundamental theoretical research is necessary. The situation demands fresh ideas, and – if possible – new paradigmatic suggestions, instead of empirical observations which prevail today. It would be strange to deny the importance of data gathering, including case study. But even less reasonable is the predominance of simple descriptive projects when the reality appeals for formulating and checking of hypotheses of a high theoretical level.

An attempt to arrange such a research was made by members of the Journalism and Mass Communications Theory Department of the Saint Petersburg State University. **"The Modern Russian Mediapolis"** project is being developed here and some steps are taken to its practical realization (mainly on local material). The complex of the ideas, propositions and data presented above gave an impetus to our work. The general intention is to construct (better to say – to reproduce) a media copy of a megalopolis, or to reflect a megalopolis in its media guise. As far as we know, this research has no analogues in the world.

Just as a real, “physical” city includes a rich variety of interconnected substructures and elements, the Mediapolis also “consists” of management and manufacture, infrastructure and private life of citizens, mass consciousness and speech dialogue, etc. It would be certainly naive to proceed from the assumption of full identity in the structure of elements, but parallels can be relevant and fruitful. We shall describe below the project’s basic directions and issues in focus.

First of all we need to explain what we understand as the Mediapolis. This word is in use in public sphere (apart from the context offered by Silverstone): that is how publicity and consulting agencies, as well as publishing houses and even a programme on the Europe 1 Radio channel in France name themselves. Such names are obviously chosen occasionally, without any theoretical or conceptual search.

In our project, the Mediapolis is understood simultaneously in several aspects as:

1. qualitative conditions of human life and society, formed through intensive development of media technologies, rising manufacture and usage of media production;
2. non-material environment of individuals and society created by the media communications and having no spatial determination;
3. methodological toolkit explaining events and processes in the modern world in the context of media products creation and usage.

Qualitative characteristics and estimations of the Mediapolis lay outside these definitions. The main task of the project is searching for and interpreting of these characteristics, on each of thematic directions. In other words, we shall use and prove the selected methodological paradigm which has got the generalized name “Mediapolis”.

For example, regarding the *quality of life* (media life) it is necessary to reveal a correlation of infrastructural and technological factors, on the one hand, and social, economic and socio-psychological factors, on the other hand (ecological and anthropological factors may also be added). Otherwise we shall come to a primitive technological determinism which is not popular in science any more. Investigating the world of everyday life (individuals’ practices) in the context of tendencies determining the development of modern science should be much more important for us. Such an approach excites keen interest in sociology, social psychology and others humanities. In particular, experts in political sociology write:

"A revival of interest to everyday life within the frame of sociology of daily practices has been connected with 'a practical turn'… the separation of the world of routine actions into an autonomous area of researches… Practical action which forms a dynamic unity with structural context becomes the basic form of existence in everyday life (according to A. Giddens)… In various cultures or traditions the same concepts have different meaning depending on actionable context" (Plotichkina, 2010, p. 234-235, 237).

Such a view on social reality is integral to our understanding of the Mediapolis as a routine, everyday practice of its inhabitants being deeply engaged into interaction with media. This aspect deserves a detailed reflection in the analysis of *Mediapolis citizens' life* which constitutes one of the central sections of the research project. The term "citizen" in this case is understood in accordance with its etymological roots and means a city dweller, an ordinary inhabitant of the Mediapolis, despite the fact that borders of this quasi territorial phenomenon are conditional.

Everyday human actions have no less importance while analyzing the issue of *labor resources* of the Mediapolis. We are first of all interested in the traditional dimensions of daily practices of those professionally involved into media producing – from the point of personnel structure and organization of working process in media organizations. One should, however, recognize that it is impossible to find out exact data concerning the personnel structure, as today we lack precise statistics in this area. So, this problem is out of our research field. It will be useful to track key trends of changes in the media employees set (professional priorities, new official and qualifying positions, age, educational background), but they can also be discovered only partly. Nevertheless, even estimated characteristics give serious cause for reflection. It refers, for example, to quantitative measurement of the mass media system. According to UNESCO, in the first decade of the 21st century newspaper journalists in Russia totaled 102 thousand. By this parameter our country ranked first in the world. China ranked second with 84 thousand, the USA ranked third with 54 thousand. But we should remember that China's population is 10 times bigger, than Russia's, and advertising profit of the American printed mass media exceeds that of Russia approximately 20 times (Ivanov, 2011). We are definitely witnessing a situation of the personnel chaos and its inevitable consequence – a decline in the employee competence level.

Some tendencies in the dynamics of professional characteristics of employees are reflected in the studies by recruiting agencies. Their conclusions are based on the hh.index which shows the number of CVs per vacancy in a certain professional area on the HeadHunter website (www.hh.ru) in a selected

period of time. Normally the index varies from 2 up to 3 points. By the end of 2011, however, in St. Petersburg there was only 0.5 resume per one vacancy in the field of social networks or blogging, and employers had nobody to choose from. At the same time the situation on the labor market of traditional mass media was controversial: an overabundance of applicants and irrelevance of offers to employers' requirements have generated a sharp imbalance. For some positions in media organizations there were 40 applicants per vacancy (Shmatko, 2012, pp. 94-95).

In other words, the Mediapolis workforce undergoes deep structural changes which occur spontaneously and remain, mainly, outside the researchers' field of vision. In this context it is especially important to focus attention on employees' self-identification, as well as on their reflection on changing working conditions, relationship among staff members and, finally, on key features of typical "new" professionals. This knowledge is accessible and extremely significant.

We can hardly separate living and environment, even in an abstract context. The emphasis differs, however, when we regard each of these aspects. An environment-oriented approach is focused primarily on *the need for the media* – both from the individual (being the key figure), and also from structured and non-structured communities. Most likely, they are not limited by what Maslow called fundamental "deficiency needs" – those of physiology and safety; they also include "secondary" needs that might even prevail in a certain context. We mean, in particular, self-actualization, the top level of Maslow's "pyramid". In the 21st century self-actualization is tightly linked with the opportunity for self-expression, which, in turn, is an issue of the sharpest anxiety of human rights movements, international educational organizations, media corporations, responsible politicians and humanistic researchers. The authors of the world survey on global access to the Internet stress in their report for UNESCO: "Representatives of global institutions and national governments around the world have endorsed freedom of expression as a basic human right" (Dutton et al., 2010, p. 7).

Correspondingly, it is impossible to imagine *governance* in the Mediapolis as a set of algorithms of administrative actions from the outside. In this case spontaneity, self-regulation, horizontal coordination, and informal communications gain importance. In the sphere of media, as well as in public life as a whole, the state and official social bodies play a crucial role, but they remain simple providers of personal rights and freedoms when it comes to civil activity, and furthermore to mass communication. In a certain sense, institutional resources now in general appear to be exhausted, and to no small degree it occurs due to the availability of media technologies to ordinary inhabitants of the Mediapolis.

The current history gives more and more examples of sharp collisions, and even loud scandals caused by the aspiration of administration and the press monopolies to keep media life processes under control. Kim Campbell, head of international civil organizations and former Prime Minister of Canada, reminds that in the United States changes in the legislation on public media activity raise serious concerns. According to Campbell, even old democracies, such as Italy, Great Britain or France, are facing big problems today. In particular, in France media owners and the President are too tightly bound (Tomak, 2010). We deliberately do not refer to the Russian realities attracting lots of criticism.

Environment analysis also includes studying the Mediapolis *infrastructure*. Valuable results may be achieved by collecting the largest possible volume of data on the mass media and other media channels forming a complex environment for individuals and society's activities. Databases of analytical (rating) companies may to some extent be used as sources of information, though they are not aimed at composing a complete description of the Mediapolis infrastructure. Of course, the study should cover not only mass media, but also libraries, state official nets, inter-university communications, archives, etc. However topical issues can – and even must – be studied within this part of the project. Is the infrastructural environment comfortable for its inhabitants? Has it got a rational ground or is it constructed on the basis of unpredictability and anarchy? To what extent is it targeted at the accelerated self-reproduction? Does it have long-term prospects or should it remain a mere accident of the present day (if not the past)? Is it reasonable today to divide channels in transnational and local?

There is one more specific environment, namely the one of *language and speech*. Certainly, in this section of the project it is impossible to reduce observation up to usual criticism of damage done to language by network communications and mass media. Experts are confident that "specific conditions of online communications generate a phenomenon of 'net speech' or 'language of the Internet'. Despite the fact that Internet communication has gained popularity in the past decade only, researchers' activity in studying language material from the World Wide Web allows for speaking about such a domain as Internet linguistics" (Goryachev, 2011, p. 200).

It is important to catch in due time whether a new type of speech is born as a universal attribute of an individual and society or we meet manifold voices, that generate some kind of a new Babylon and cause an intergenerational divide preventing inhabitants of a megalopolis from understanding each other. Who defines fashion and standards? What is speech culture today (and tomorrow)?

Which institutes are responsible for "managing" speech processes and is there a need for such management? What are the national and international peculiarities of these processes? Can we predict the creation of a new Esperanto?

Cultural consciousness and self-consciousness of the Mediapolis, although closely connected to mass speech, develop in a special mode. Undoubtedly, essential and even fundamental shifts occur in this area, that are of different nature. One of the advantages is the extension of individuals' access to cultural property, and not only within the borders of a real megalopolis, but also at a global level. It is accustomed by visible lowering of standards and simplification of culture.

At the back of these obvious changes are specific cultural phenomena, generated by media life itself and first of all by net communication. For example, the city folklore could be seen in a different light. What myths and legends appear within the flows of net communication? Which spiritual and cultural values do they bring and how do they correspond with old values? We can disapprove the elimination of paper books and "old" cinema, but we have to recognize that it has become a sign of everyday practice and as such requires studying. We should really reflect on the crowd's idols. It seems, writers as teachers of life, as outstanding thinkers and movie heroes has had their time… Bloggers (often lacking personality) are today's new idols and prophets. How does such a replacement affect mass consciousness and behavior? Is the construction of the Mediapolis similar to the destruction of the Culturepolis in this respect?

Due to the opportunities for self-expression and self-realization emerging in the media space individual consciousness deserves special attention. In general these new possibilities correspond to the strategy of humanization as the ideology basis for a civilization "leap" and driving force of social transformations. We assume that in the past decades prerequisites for rising "the human factor" have been created. The problem now is using it to the utmost for the benefit of both individuals and community. In this connection a burning issue is the citizens' readiness to manage the huge potential of freedom which the media infrastructure has given to them.

It is a question of individual perception of personal freedom as an indispensable condition of normal media life in the Mediapolis, with corresponding emotional support of this rational comprehension. Personal freedom is understood in the highest spiritual context, without any diminutions of its essence and without narrowing it up to "convenient" using or to a standard set of technological operations (like computer clicks) and so forth. Some initial steps in this direction

have been taken in recent years (Korkonosenko, 2010; Korkonosenko, 2012), and now we consider personal communication freedom to be one of the most promising and urgent vectors for Russian media studies.

We draw the general outlines of the research project focused on the Mediapolis as a complex phenomenon. To our opinion, the project has great potential for usage in close connection with the media and information literacy studies as well as media education practice.

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On a New Approach to Problems of Communication

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A considerable growing interest in the research of communication processes is a distinctive feature in the development of the contemporary humanities. Projects are executed to study specifics of communication in the fields of education, industrial production, politics, and other social spheres; to study special features of interaction between students and educators in various cultures; to study styles of communication in the classroom; to study the nature of intercultural conflicts and ways of resolving those, etc.

We can identify the following major causes of the interest shown in those subjects:

1. a steep growth in the number and complexity of contacts, including contacts with representatives of other cultures;
2. the virtualization of the information space due to the fact that information, virtual images of objects, persons and processes lose all connection with the real images;
3. the globalization of the information medium as expressed in the situation where if in the past the interested person read newspapers, magazines, or watched TV, or listened to the radio, thus receiving his individual picture of the event – now he can address the electronic media system providing him with considerably finalized quantitative and qualitative conclusions that have been reached on the basis of the entire aggregate of the pertinent publications and broadcasts;
4. emergence of conceptually new communication formats: Web 1.0 – as production of content by a small group of specialists for the purpose of subsequent use by the mass of the Net users; Web 2.0 – as an independent content production by a mass of users and an active exchange of information among them, emergence of social networks; Web 3.0 – as creation of advised services in the Net, formed exclusively according to consumer opinion.

As specialists were trying to investigate the complicated empirical situation a great number of approaches were suggested to analyze the communication processes. It resulted in the emergence of a multitude of scientific directions and disciplines. One of them has been termed as “communication science”.

In my opinion, the notion of communication science would be suitable to denote the entire complex of the scientific branches and practical applications, which describe, explain and develop the methodological provisions for the communicative activities of man and social systems. The thesis is illustrated in Figure 1 below.

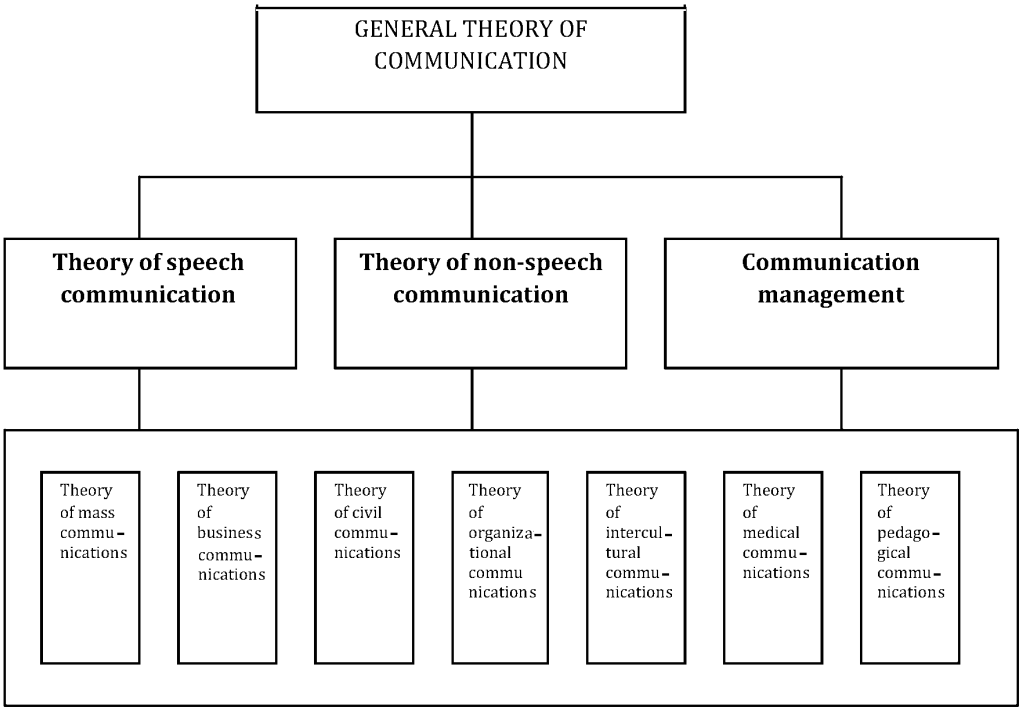

Figure 1. "Communication Science": An interdisciplinary complex

There is hardly a need to prove that each one of the specific communication theories shown in the diagram comes to be realized sooner or later in applied methodologies and recommendations. The value of any science is determined not only by the level of the theoretical generalizations it suggests, but also by the field of its inferences application, by the field of its practical recommendations for society as a whole. And this is the reason why there exist in any contemporary science two main levels of research: the theoretical one and the applied one. We can state that in the research of communications there has come to be crystallized – side by side with abstract, theoretical notions which are thoroughly distanced from concrete reality – knowledge which is directly focused on the study and resolution of practical collisions of communication behaviors.

Although there is no agreement as to how to term this applied branch of communication research, the available precedents of forming the applied

communication science allow us to suggest the following general wording as a tentative definition: ***applied communication science is a complex of scientific disciplines investigating specific communication situations with the purpose of developing practical advice and recommendations to serve as means of raising efficiency in communication*.**

Conceptual framework of applied communication science

I would like to set out in this article a hypothesis regarding the main subject of applied communication science: it is advisable to consider in this capacity various regulators which determine the communication behavior and the reciprocal communication expectations of the subjects of communication. Various scholars use various notions to define the regulators, such as: principles, norms, rules, discourses, conventions, codes, and formats.

The notion of **"discourse"** (*"discours" in French, from the Latin "discursus" meaning "deliberation," "reason in discussion"*) is the most often used these days and is translated in dictionaries into Russian as "speech," "address," or "deliberation." In theoretical human self-reflection though, discourse is understood most often as a tool serving not only for appropriation of reality by way of "a discourse", but also for constructing standard-setting models – perception frameworks and behavior scenarios. To recapitulate, discourse is both a process and its result (as represented by the established methods, rules and logics in the discussion of a subject). Given this assumption, "discourse" is considered as a way of arrangement of reality, a vision of the world, which has settled and become consolidated in the language, and which is being realized in most diverse (and not only verbal) practices, and, therefore, not merely reflects the world, but also designs and creates it.

Any discourse belongs in institutional communication performed in public institutions and making an important integral part of their functioning.

The main parameters of institutional discourse are:

- a set of communication situations (speech events) which are typical of the particular sphere;
- a notion of the standard models of the speech behavior when specific social roles are played;
- a specific (limited) set of communication subjects, a specific set of intentions and respective speech strategies.

An active use is also made of the notion of **"convention"** which serves to denote the forms of interaction, including interaction by speech, which are accepted in a given society (and which are regulated by the same society.

If we mean social conventions which regulate the initiation of a certain act of communication, it would be suitable to see the communicating people as members of certain social hierarchical strata, which are clearly or vaguely defined, such as:

- head/administrator/employer – subordinate worker;
- senior rank (such as in the army) – junior rank;
- teacher/master/lecturer – pupil/apprentice/audience;
- parents/adults – children;
- leader – a group of people;
- owner – tenant;
- host – guest.

The word **"code"** is fairly often used in order to denote the rules of communication. Kluyev writes on the subject the following: "The code of communication is a complex system of principles which regulate the speech behavior of both parties in an act of communication, and which are based upon a number of categories and criteria. (There may arise the following question: how does the communication code relate to what has been defined as speech conventions? The notion of the communication code is broader in this sense, and it regulates speech conventions, among other categories)".

The notion of "**format"** has come to be extremely often used lately. In Latin "format" means "appearance, external form." This term entered the printing profession in the 18th century to mean "the size of the publication, the size of the printed sheet." The term came to mean at the time a definite standard size, a standard in the printing industry. The notion has come to be used later by computer people to denote certain parameters, properties and options that can be used for certain types of computer programmes. The derived notion of "formatting' has thus come from the computer lexicon to mean the following: 1) to erase old information and to install new software; 2) to shape the text into a definite predetermined form, for example: *to format the text to centre, to the left or to the right.* In both meanings of the verb "to format" the core element is preserved – "structure, paragon."

In the opinion of Surikova, "it was this very actualized seme of "standard," "paragon" that made it possible for the notion of "format" to become so active in the everyday theory and practice of mass communication at a time when their status of paragons and standards was lost by the notions "mass media type," "genre" or "style," the ones that used to reflect the systemic nature of the phenomenon. So the word is becoming trendy…

This coincidence of linguistic and extra-linguistic causes could, in our opinion, result in a situation in the field of mass communications when “format”, staying short of displacing the above notions, came to be used at least as their modern and trendy synonym conforming to the linguistic taste of the time. This is witnessed by both the contexts of its use and by its word combinations”.

Without going into any analysis of the above categories I will state my position. To my mind, the notion of **“matrix”** is the most adequate term denoting all kinds of possible regulators of communication. The notion had existed long before the release of the movie entitled “The Matrix” and it carries quite a definite meaning. The word is a derivative of the Latin “matrix” and is used in the Russian language to denote tools for stamping and printing for a metal plate with an in-depth straight depiction of a letter or a sign, to be used as a molding box to cast letters. This meaning – a mold that determines the parameters of an object – provides quite ample opportunities for using this notion.

The notion of **“communication matrix,”** as manifested in discourses, conventions and codes, is the most adequate term to denote systems of knowledge, values and norms, determining the specific nature of communication for various subjects in various situations, and making it possible to tie the systems with the overall social situation. The idea is reflected in Figure 2.

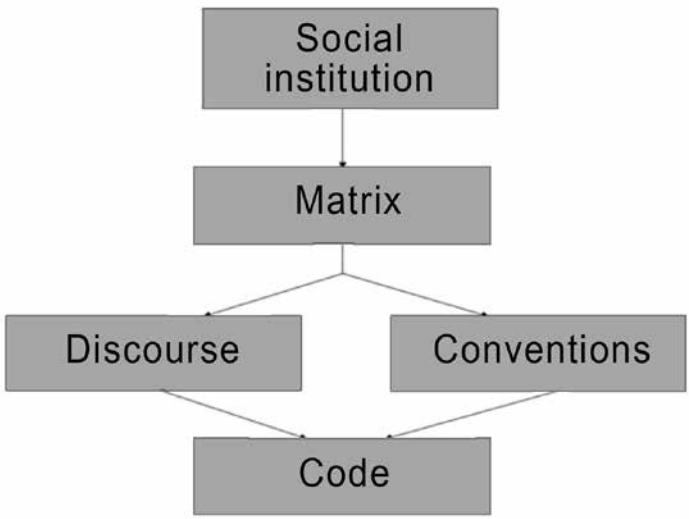

Figure 2. Communication matrix: A system model

Types of communication matrices

The numerous communication matrices can be divided between three main groups as follows: vertical, horizontal and hybrid matrices.

The vertical matrix:

- subjects of communication are distributed along a vertical line (parents – children; chiefs – subordinate workers; the national state – subjects);
- state dominates in most communication processes;
- access to information is made difficult by a multitude of special standard-setting acts;
- the right to free expression of personal opinion is not realized in practice.

The horizontal matrix:

- partnership relations exist among subjects of communication;
- the feedback mechanism is well-adjusted;
- the right to free access to information, the right to freedom of expression, the right to personal choice of communication channels – all these are provided by the legislation and are actually practiced.

The hybrid matrix:

- subjects of communication are distributed by classes inside which there exist horizontal relations, and vertical relations exist among the classes;
- partial access is secured to various data stores, but access to a considerable section of the data resources requires special permission.

All the three communication matrices coexist now in Russia. The hybrid matrix is the basic one while the vertical and horizontal versions are complementary.

As it is functioning in the media space, the communication matrix is realized as a **media matrix**, i.e. as a summation of more or less rigid norms and rules, according to which the mass media product is created. The media matrix is operational at every stage of journalistic and editorial activities: when selecting the news reports, when choosing the news genre, etc.

The media matrix is branching in its turn into several varieties providing for realization of the various tasks of mass communication. We can identify roughly such media matrices as journalism, commercial advertizing, and PR, among others.

The fact that mass media as a social institution and journalism as a type of social activities operate according to standards and rules, which depend on the specific nature of the social system, was revealed to specialists in the work of the American sociologists Fredrick S. Siebert, Theodore Peterson, and Wilbur Schramm, entitled "Four Theories of the Press" and published in America as long ago as in 1956. Describing these standards and rules as "theories of the press," the authors have distinguished four pertinent theories: authoritarian, libertarian, the theory of social responsibility, and the Soviet theory (Communist).

McQuail had added two more to these press theories: the model of developing countries, and the model of democratic participation. Now, according to a theory of Raymond Williams, a mass media system may be authoritarian, paternalistic, commercial, or democratic. A mass media system is authoritarian when the main task of the communication is seen as transfer of instructions, ideas, and approach patterns, emanating from the ruling group. The paternalistic system is an authoritarian model, according to which the ruling group retains however its responsibility to society, regarding values and aims which are beyond the frameworks of the requirements for holding the ruling power. Although the commercial system differs from both the authoritarian and the paternalistic ones by a greater degree of internal freedom, "it has its own limitations emanating from the difficulties of receiving profit from certain types of communication": one can say anything, provided one can allow himself to speak, and to speak with a profit. Williams was not able to find an actual example of a democratic model of mass media, hence it became for him a system of principles by which one should be guided, rather than a set of specific suggestions resting on accumulated experience (Sparks & Reading, 1998).

In Russia the problems of mass media type classification was studied extensively by Akopov, Resnyanskaya, Shkondin, and many other scholars. True, what they most often were looking for was an efficient classification system of mass media, which would make it possible to create a semblance of the Mendeleyev periodical system whose squares would house all possible types of mass media.

My approach to analyzing the types of mass media and journalistic writing was formulated for the first time in 1988 in an article published in the journal "Slovo lektora," now unbethought. It was set out henceforth in several other my publications of the Perestroika era. Still later my ideas were expressed more or less clearly in my book "Rossiysky journalist v posttotalitarnuyu epokhu" (Russian Journalist in the Post-Totalitarian Era) as well as in other publications.

The essence of my approach was in my affirmation that there co-exist within the frameworks of the Russian professional journalistic culture several alternative paradigms of professional activities, which differ from one another in all their components, including the moral-ethical one. They all are accommodated

in a kind of "space" that is formed by three vectors as represented by the fundamental socio-professional precepts which determine the general character of a journalist's attitude towards his audience.

The first such precept places the journalist above his readers or his listeners, thus determining his right to view them as the object of control (of educating, of teaching), putting the journalist himself into a position of a carrier or a transmitter of control (administration) programmes of various types and various levels. If we try to define with a single word the ultimate destination of this journalist's work, the word would be "influencing."

The journalist practice of this kind has received its sufficiently fundamental substantiation in the works of numerous theoreticians and researchers, who have created a complex of well-built concepts, which are perfect in a way, the concepts of governing influence resting on the notion of the active role played by the mass media which act as the subject of propaganda, complemented by the passive (despite the numerous reservations) role delegated to the audience which is considered as the object of ideological, propagandist influence.

The second precept places the journalist side by side with the audience and orients him towards relations of informing. In this case the journalist considers it as his main professional duty to provide his audience with various types of information in which the audience is interested, various data and materials; he also sees it as his task to help the audience to formulate their opinions.

Both these precepts, despite the substantial differences between them, result in alienating the audience from the mass media.

The third fundamental precept demands that the journalist stays amidst a certain human community, and that he should consider himself as an involved and interested participant of a search, undertaken jointly with the audience, for solutions to the problems of life. The main idea of such journalism consists in that the journalists should consider readers, viewers and listeners not as a background, not as passive onlookers, not as victims of circumstances, but as participants in solving important problems. This type of journalism is self-determined in such terms as "humanitarian," "personalized," "communitarian," as participatory journalism, etc.[1]

It is the "dialogue moderator" who assumes the principal function/role in the journalism of the latter type. This means that journalism can and must create the medium for an equal dialogue among various social groups – no matter how much they differ in size or in their ideas, purposes or types of association – in the course of which dialogue social contradictions or conflicts may be resolved. Journalism can and must unite in a single information space contradicting

[1] Detailed technology of dialogue in mass media is provided in the works by L. Resnyanskaya, A. Grusha, E. Prokhorov.

opinions and ideas, which, having become accessible by public, may find precisely in that information space ways of coming together, or find at least arguments to prove their own correctness. This function is particularly requisite in a society which is being torn apart by conflicts and which is split into opposing camps, in a society which cannot find reconciliation in city squares and public rostrums. This is a function that is capable of turning a conflict destroying unity, into a conflict which identifies the problem, and is thus capable of bringing closer its resolution not at the level of a street scuffle, but from positions of reasonable and pragmatic public dialogue.[2]

What is the situation in the Russian mass media if we use the above classification?

The first group, the mass media of influence, owned by the state and by corporations whose main task consists in providing influence upon the public opinion and upon the population behavior stereotypes, is represented by the most powerful and the most well provided communication resource. It is well known that at the present time most regional and up to 80% of the municipal newspapers in Russia have been established by the state and municipal government agencies. It influences the editorial policies of these publications, and reduces their economic independence, because all of them are subsidized, in a number of manners, from the regional and local budgets[3].

The mass media of the second group, which are usually termed as commercial because they are oriented towards profit-making from satisfying the interests and needs of the audience, are doing fairly well too. Research data for the past ten years allow us to think that they have fair prospects for development. The advertizing market is growing by leaps and bounds as the unpretentious mass audience is swallowing with satisfaction the content which is not of a very high quality.

[2] Detailed technology of dialogue in mass media is provided in the works by L.Resnyanskaya, A. Grusha, E. Prokhorov.

[3] Data obtained in the course of various research projects show that the relations between the authorities and mass media in Russia are self-determined either in terms of submission and subservience, or in terms of war. A third version of dialogue or partnership somehow fails to materialize. At the provincial level people in any stage of authority often show a lack of desire to take account of the nature of mass media as an independent social institution, they tend to turn journalists into their servants whose duty should be to perform errands given by people at the top. Local authority chiefs see local press primarily as something like an additional information-analytical service or as a PR department. Local press is not considered by the local authorities as a controller and a critic of their actions. Given all the differences in age, education, and life experience, heads of regional and local administrations see so often mass media not as an independent institution of civil society, and not as a special and relatively independent information business, but exclusively as an information-and-propaganda appendix of the Administration. Many of them are inherently convinced that journalists' work consists in helping them, leaders, to solve problems that they face.

The commercialization of the mass media has resulted however in many of them having ceased to conform not only to their informational task, but also to perform their proper cultural, educational and other functions. The absence of civil society traditions and the exclusion of the population from the political process resulted in a situation where the commercial mass media have to cater to the rather limited interests of their audience, mostly household and entertainment interests, which are also interpreted quite liberally by the managers of the media businesses.

The third group of the mass media which pose as a social institution protecting the interests of society against the authorities and against the capital power, is insignificant by its size in the overall number of mass media, and its destiny is hardly enviable.

These proportions of the various types of mass media are not incidental. Nor are they the result of someone's evil will or of lack of professionalism. Most probably, these proportions are determined by the peculiar features of that very social system for which the services are provided by the mass media. But this is another topic for discussion.

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MIL as a New Concept. Linkages with Other Literacies

Mapping Out Media and Information Literacy

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1. How the idea of the Competencies Catalogue developed?

A specific problem in the contemporary world is the massive spread of tools unknown to previous generations which have improved communication, remote collaboration and trade, as well as the dissemination of works, ideas, views and opinions. Skills required for the effective use of these tools are not sufficiently acquired in the educational process, nor are they passed down to children from parents, who often have more difficulties to keep up with rapidly changing technologies. At the same time, it is difficult to overestimate the role of media and information competence in any area of our life in today's world: from the private sphere, through professional, and finally to the civil dimension.

In 2011 The Modern Poland Foundation started working on the "Digital Future" project, which aims to create a complete framework for teaching media and information literacy, which could be implemented into schools and other educational institutions, such as community centres and libraries.

In the first phase of the project the Foundation published a comprehensive report on the state of media and information literacy, which defines a number of problems arising from how little we know about digital competencies of Poles, especially children and young people, as well as related to the lack of a coherent plan for improving the competency level in this area. One of the problems presented in the report was the lack of documents stipulating the scope of media and information literacy. Various government agencies and institutions use not only different definitions, but also different terms – *media literacy*, *information literacy*, *audiovisual literacy*, and finally *digital literacy* – to describe the same or a similar set of competencies.

This is why the team of experts working on the "Digital Future" project implemented the concept of *competencies convergence* indicating that it is not possible to work in media and information literacy field without a holistic and systematic approach to shaping creative attitudes and competent use of information in all its different forms.

Although media and information literacy has for years been the subject of academic debate and one of the priorities of the state, we still have no answers to the question of what media and information literacy is, what the scope of its content is and what specific skills should be developed. Ongoing discussions held so far certainly helped popularise the subject and universally recognise its importance, but the time has come to take firm steps leading to its practical implementation. In order to avoid actions based largely on intuition, of random and fragmentary nature, and often focusing on marginal issues, operationalisation of the concept is necessary. Therefore, The Modern Poland Foundation in cooperation with media and information education experts prepared the Catalogue of Competencies.

2. Methodology and structure

The Competencies Catalogue covers all age groups, divided in 2 main sections: formal education and lifelong learning. In formal education the competencies have been assigned to 6 different educational stages: pre-school, primary school (divided into 2 groups; 1–3 grade and 4–6 grade), lower secondary school (*gimnazjum*), higher secondary school and university. Considering that for adults using age groupings would be much less relevant, we invented 3 categories, depending on the proficiency level: minimum, optimum and master. The minimum level enables users' basic participation in the information society through media. The optimum level user is able to actively co-create media environment. Competencies on master level allow to trigger social change through media, organise other users, share knowledge and advise others.

The Catalogue is intended as a supplement to existing curricula, and therefore should be read in parallel with the guidelines for subjects such as Polish language or civil education. We tried to ignore issues introduced in the framework of these subjects, assuming that students will gain the necessary knowledge during these classes.

Although we used the categories related to different stages of education, it is crucial not to narrow thinking about media and information education only to the formal education sector. Tasks in the field of media and information literacy can be successfully performed by non-governmental organisations, community centres, libraries and other educational and cultural institutions.

There is also a need to underline the conventionality of stage borders in young peoples' development. We stress the fact that children development is not linear and often advances by leaps and bounds. A child can develop very quickly in some areas, while in others more time is needed. The proposed set of competencies determines what a child can (not necessarily should) achieve at the given stage, it gives guidance on child's potential at a given stage of development.

The subject of media and information education had to be split into thematic fields to allow its analysis. In many places, we made arbitrary decisions and we realise that this division could be done in other ways, perhaps also justified on theoretical grounds. We chose eventually the division into 8 basic categories: *Use of information*, *Relations in the media environmen*t, *Language of media*, *Creative use of media*, *Ethics and values in communications and media*, *Safety in communications and media, Law in communications and media*, *Economic aspects of media*. This division is in many places arbitrary, since many issues are necessarily located on the intersection of these fields or are present in more than one area. However, as we treat this Catalogue as a map, the most important feature of which should be intelligibility, we have arrived at the conclusion that in the name of this clarity it is better to distinguish problem fields, even if it entails the necessity to make controversial decisions, as it was the case with discrimination between fields "creation" and "processing". We realise that in fact it is impossible to deal with these two (and many other) aspects separately; nevertheless, we decided on such a division not to contrast these concepts, but to facilitate navigation through such an extensive material.

While working on the Catalogue, we consciously decided to rely on the recommendations of the European Commission listed in the document A European approach to media literacy in the digital environment. Bearing in mind that the Commission only indicates the priority directions, we made the necessary additions and clarifications. Although the announcement of the Commission has only general and tentative character, 8 problem fields comprising media and information literacy in our classification correspond to guidelines of the Commission and don't leave without appropriate propositions any of the priority problems.

3. Description of thematic fields

I. Use of information

The category of "use of information" generally matches the concept of information literacy, which is defined as a complex of knowledge and skills needed for effective use of information resources, from the moment of recognition of the information gap, through defining information needs, selection of sources of information, finding in them the needed piece of information and its critical evaluation, to use of the information resources at work and their public presentation in an appropriate form. The importance of information skills is unquestionable, as they are – apart from preparation for lifelong learning process – one of the key conditions for the participation of citizens in the information society and determine their development.

These competencies are gaining more significance, especially in view of the development of new information and communication technologies and the exponential growth of electronic information sources. The widespread use of such concepts as information noise, misinformation or information overload, suggests that the information not only surrounds every human being, but can also often overwhelm. This in turn means that every person should have the complex of skills and knowledge, allowing for the efficient use of information resources. These skills have been grouped into 4 main areas: sources of information, information retrieval, critical approach and information management.

II. Relations in the media environment

In the context of the media an individual enters relationships with other users, the environment and relationships between groups and within groups. Pondering the model of communication, one can conclude that the traditional scheme "sender -> recipient" is not adequate any more for the description of the examined reality. This process is currently taking place in many directions and in different models: "one-to-one" (personal communication), "one-to-many" (eg. comment on a social network), "many-to-one" (eg. reaction to the comment posted earlier) and "many-to-many" (eg. discussion forum), in which everyone can be both a sender and a receiver of messages. The individual establishes relationships within the group, or with the environment of a different nature and degree of permanence. To describe the competencies indispensable to create relations corresponding to the objectives set by the individual there have been put forward three major issues: image, communication and environment.

III. Media language

Literacy defined classically as reading and writing became extended in the first half of the 20th century to new phenomena of audiovisual culture. The discussion about grammar of film and television was started. The creators of this approach (Culkin, McLuhan), were convinced that the audiovisual media are the new language of mankind functioning in a similar way as English. They should be taught as language skills understood in the traditional way.

The first stage is learning the "alphabet", the following ones concern education in the new "literature." The end of the 20th century brought about the theory of new media literacies (Jenkins, Gee), which studies also such media messages as computer games and blogs in terms of new languages. Today, by the media literacy we understand the media competencies in general, but the original meaning of the term was related to the linguistic nature of the media.

Such an approach to the issue of media is also bound up with the semiotic and hermeneutic tradition of conceiving cultural phenomena. The key concept here is "text", by which we mean not only the written or printed communication, but every product of human cultural activity – from sculpture and painting, through film, to multimedia productions. When discussing these issues we will have in mind this wider meaning of language and text. Specifically it applies to the following categories of analysis: linguistic nature of different media, the functions of media messages and culture of media communication.

IV. Creative use of media

Creation of messages with the use of modern digital tools is one of the main forms of activity of people using the Internet. New services, equipment and software allow not only for the independent creation of new content, but also for its processing, including the use of resources previously published. In the remix culture, everything available in a digital form – as well as digitalised analogue resources – may become a resource used to create new content. Creation and processing involves also the issue of content presentation. Creation in the broad sense is often a social activity; production of the content, processing of published resources and presentation of the content on the Internet often require cooperation with others.

These three interweaving categories can be examined in more detail. Their separation, more and more difficult in the hypermedia network space, may be useful in the process of building educational materials that refer to this study. In this section we use the concepts of multimedia, understood as a combination of different forms of media and messages made up of different media (e.g. digital storytelling – digital narratives that are de facto short videos, the creation of which involves sound, photographs, video clips, text), and hypermedia which are messages composed of various media, based on hypertextual architecture.

V. Ethics and values in communication and media

Our Catalogue would remain incomplete if it lacked an explicit reference to ethical competency. Mastery of technical and social skills are not enough. Today's widely available communication tools do not impose on the user any ethical obligations in themselves. The regulations of many services impose a number of limitations resulting mainly from the commercial policy of the provider and generally binding laws.

Out of range of the technical and formal regulations in the social communication remains an area in which the users set their own limits and define the values of communication. The set of ethical competencies and values proposed in this

Catalogue is meant first of all to strongly emphasise the need for individual work on this area by any recipient of media and information education. Naturally, the task should not be placed next to the development of specific technical or cultural skills, reflection on ethics should be superimposed on each of them.

VI. Safety in communications and media

Safety in the digital age is a very complicated subject. Because of the emergence of more and more new technologies and the risks linked to them and because of the freshness of the topic (which results in many cases in the lack of well-tried patterns and best practices), it is difficult to create an exhaustive list of competencies in this area. Inequalities of opportunities between users and large service providers also should be taken into account here.

The competencies in the area of security in communications and media include: protection of privacy, supervision of the network, anonymity, security of communication, work and transactions, as well as addictions and hygiene of using the media.

The consequences of neglecting certain aspects related to the safety of using the media can show quickly or they can take revenge on the user many years later. They can be spectacular (like stealing critically important data from an unprotected computer) or subtle (monitoring another person's network of friends through social media). What is needed is always a compromise between convenience and security in the communication situation, which means that it is impossible to offer a particular set of tips to ensure complete safety. Decisions on such compromises, however, should be made sensibly. It is very important also to realize the basic truth: the security is not a permanent condition – it is a process.

VII. Law in communication and media

The task of the Law area in this Catalogue is to translate general recommendations and rules into corresponding principles of legal relations, sources of law and the resulting standards. In other words, thanks to the scope of the programme a student should:

- know their rights, what is allowed by the law and what is against the law;
- be able to find out appropriate legal norms and search them for regulations concerning particular problem;
- understand what the purpose of these regulations is, what the premises of their introduction are and whose interest is protected by them.

With the development of information society there are developed and implemented legal norms which are specific to the electronic communication. As the diffusion of new methods of communication continues, it is necessary to adapt to these timeless, general standards, but the process is delayed, because of the need for the accumulation of social experience which helps understand newly emerging opportunities and threats.

Against this background, the teaching of specific legal norms is associated with the risk greater than in other areas. When teaching law, one must always reckon with the fact that specific legal provisions will have been changed before the student completes their education cycle. In the area of media and information the education risk is even higher: not only speciic regulations may and probably will change, but also some core elements of conceptual systems in which these regulations were rooted.

At the same time attempts to identify and discuss various standards shouldn't be abandoned, for it is due their not full adjustment to the new technical tools entering into our lives that their correct interpretation in the context of the situation related to the use of these tools becomes especially difficult. This implies an increased risk of two types: unintentional violation of the law with its dire consequences or overeager readiness to give up guaranteed rights.

VIII. Economic aspects of media functioning

Economic aspects of media functioning in the context of the media and information competencies focus on such issues as information, media pluralism and concentration of media, market competition, the impact of financing and regulating on the organisation and content of the media, advertising and commercialisation processes, and also the role of public and private media. The Polish Constitution includes a provision of citizen's right to information. This law is enforced not only by the presence of the media, but also through citizens' acitivity, who, thanks to modern techniques of communication and access to the Internet, gained an opportunity to comment on events and to collect, compile and publish information on their own.

It is more and more difficult to preserve the traditional division between the media and their customers, as users abandoned the role of passive observers. In this situation, it is even more necessary to understand the impact of economics on the media market (also created by users) and the regulatory impact on the functioning and financial future of the media. Complex issues that make up the economic aspects of the media, are divided into four overlapping categories: media market, information as an economic good, financing of the media and media policy.

4. Future development of the Catalouge

We want to emphasise very clearly that this is a pioneering work, and therefore it is not necessarily exhaustive and definitive. We treat our Catalogue as a "beta version" of a proposal to finalise the issues that will allow the transfer of the ongoing debate to a new, practical level. We don't claim any rights to formulate categorical opinions – we know that although we did our best and engaged highly skilled professionals, this Catalogue should be further developed, completed and corrected. That is why we publish it under a free license Creative Commons Attribution – Share Alike 3.0 Poland – we expect that not only we, but also other institutions, including public bodies and international organisations, will develop, update it, and expose it to public criticism. It is available online on the "Digital Future" project website: cyfrowaprzyszlosc.pl. Since the Catalogue was created with the intention to serve today's users using technology available to them, we realise that with the rapid development in this area it will require additions and adjustments to changing conditions. However, to talk about practical skills, we had to rely on technologies accessible to us, accepting the risk of rapid obsolescence of our work.

The Competencies Catalogue is a tool that will allow for the construction of a comprehensive and coherent set of teaching materials for media and information education at different stages, including lifelong learning. This process will be initiated by The Modern Poland Foundation this year, but we hope that we will be joined by other organisations and institutions interested in this field of activities. A broad base of teaching materials will be made available for free under the same CC BY-SA license, which means that you will be free to use, copy, distribute and adapt it to your needs. We believe that the free access to teaching materials will contribute to a significant increase in the number of activities conducted in this area, and consequently to a rise in the level of media and information literacy in Polish society.

The Vertical Nature of Personal Information Culture and a New "Benchmark Space" for Disseminating Information Culture

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The "Personal Part" of Information Culture

In the shadow of the noisy definition wars, fighting with different dimensions of information literacy and information culture, we can realize the birth of a new "conceptual hub" around the personal nature of information culture, aggregating several important aspects of everyday digital life.

Personal Information Management (PIM) and *Personal Knowledge Management* (PKM) approaches are now combined with the emerging *Personal Digital Archiving* (PDA) and *Personal Learning Environments* (PLE) issues. Its "physical" infrastructure is the *Personal Area Network* (PAN) and the wearable computing paradigm, its "soft" infrastructure is the universe of *Personal Productivity Improvement* (PPI) tools, solutions and softwares. The personal "face" of social media is the practice of *Personal Network Management* (PNM). The role of the emerging *Personal Knowledge Governance* (PKG) is planning and developing for this complex scene.

The three levels (layers) of Personal Information Culture

This challenge requires more sophisticated/detailed map and definition system of different components of information culture.

The narratives are tipically about the elementary literacy forms (computer/network/online literacy, functional usage of different communication channels and tools, search skills, familiarity and ability to manage online transactions, etc.), which I call *Basic Personal Information Culture* (BPIC), and the *High-level Personal Information Culture* (HPIC) which also can be named as hyperliteracy or digital erudition (including such aspects as information outlook, information ethics, analytic knowledge on different aspects and concepts of information culture, discourse-sensibility, reflectivity to the digital universe and an acting self).

Basic personal information culture (BPIC)	
Computer literacy	
Network literacy	
Functional usage of different communication channels and tools	
Search skills	
Familiarity and ability to manage online transactions	
Mid-level personal information culture (MPIC)	
Domain-independent skills and abilities	***Social practice***
Visual literacy (visuacy)	Financial literacy
Navigation literacy (navigacy)	Participation literacy (*participacy*)
Media literacy/critical information literacy	Scientific literacy
English proficiency	Legal literacy
Game literacy	Psycholiteracy
High-level personal information culture (HPIC) (hyperliteracy or digital erudition)	
Information outlook	
Information ethics	
Analytic knowledge on different aspects and concepts of information culture	
Discourse-sensibility	
Reflectivity	

However, the hottest part of personal information culture is the intermediate "layer", the *Mid-level personal information culture* (MPIC).

MPIC contains advanced literacy forms as *Domain-independent skills and abilities* and special literacy forms, connected to the *Social practice*, regarding and reflecting to the digitization and online nature of more and more aspects of everyday life.

The future of Domain-independent skills and abilities is slowly becoming an organic part of the Basic Personal Information Culture (BPIC), narrowing also the digital literacy divide.

The mission of Social practice literacies is simultaneously the improvement of everyday digital life and transformation of components and patterns of the High-level Personal Information Culture (HPIC) through personal life experiences.

Scientific literacy in the focus

Within the Social practice literacies cluster it is the *Scientific Literacy* which has a growing and strategic importance. It does not simply mean being taught of sciences by teachers or digital contents. It's not equal to taking part in science dissemination lessons and events. It is more than using experiments to illustrate the lessons and attract the students.

Scientific Literacy is about the participation in living and online coordinated scientific projects to produce new knowledge for and with the community. Participation has lots of faces: agenda setting, control, performance, evaluation. Researchers, teachers and students are really making science as a part of knowledge producing Megamachines (paraphrasing Lewis Mumford). The revolution will come to a head when the acquisition of knowledge is no longer forced into a straight jacket sewn together from pre-programmed subject-material strips, under the stormy skies of a methodologically shoddy culture of rewards and punishments. It will come when individuals armed with a capability for dialogue and critical thinking reflect and re-present their own personalities in the framework of a cognitive process chosen, organized, systematized, and developed by themselves. (We have just finished to develop a "workflow tool" for future scientific megamachines, called *Palaestria*).

For UNESCO, there is no more "authentic" domain than combining Sciences, Education and Infocommunication (as a platform) into one coordinated, worldwide action to make every student scientifically literate in the above described way.

Supporting these activities, in January, 2013 a new public institution will open at Szeged, Hungary, called **Szegóra** (Szegedi Agóra), named by the people of Szeged.

The view of Szegóra from its courtyard

Informatorium – a fantasy picture of the ground floor

Szegóra will contain four institutions: the third biggest **Computing History Museum** of the world, an **interactive game centre**, called Százszorszép (Moonflower), a **Spectacle-Lab**, where light drives nano-machineries, and the **Informatorium**, "the temple of infromation culture". The expected number of visitors is 250,000 per year.

The Informatorium is a two-storied, hyper-integrated space for information technology tools, information services, education, training, incubation, computer-supported activities, research, community improvement and content development.

It is simultaneously a working place for companies (shifting about yearly), a demonstration space, providing access and tryout possibility to all new tools and solutions, continously. It is a permanent home of business and community information services (i.e. digitization of family memory), projects (like *Open Szeged*) and special communities (IT for people living with *disabilities*, *Elderly people on the Net*, *MMORPG Club*, etc.).

The organizers are planning few "Main Attractions" and numerous (more than fifty) "Activities" into the Informatorium.

The four "Main attraction" simultaneously provide an exhibition-like discovery tour for visitors and insfrastructure for value-added research and development.

- ***Intelligent Home*** (Intelligent Living Room, Bedroom, Kitchen, Bathroom and Toilet. The Intelligent Bedroom at the same time is an E-health Centre, the Intelligent Living Room is a Home Entertainment Centre).

- ***Smart Room*** (Teleconference Centre, Decision Lab, Exclusive Language Education Place, Focus Group Research Room, etc.).
- ***Screen Wall*** (a more than 150 square meters surface to (re)present every state-of-the-art display tools, experimental 3D visualisation, projector technology, plasma, LED and other screens – to be in use permanently).
- ***Gadget Empire*** (a flexible system of shelves, fully topping up with the latest mobiel, handy, palm, wearable, small tools and accessories of everyday information culture – to meet them, to learn about them, to try them and to test them. The out-of-date gadgets are getting into the collection of Computer History Museum).

Intelligent Living Room in the Intelligent Home

Smart Room (Illustrations)

The most important and attractive *Activitiy forms* represent and demonstrate "hot topics" and state-of-the-art service forms for professional visitors and citizens as well. Let's run through some examples:

- Broadcast Paradise,
- LED-cave, digital signage tools,
- Immersive 3D environment,
- Online Game Culture Knowledge Centre,
- Szegedicum – Virtual Collection of the city history,
- IT-security "flood-gate",
- Building Psychology and Intelligent Office Centre,
- Personal Information Management Consulting,
- Digitization, Personal Digital Archiving,

- Infographics and Information Architecture Centre,
- Software Testing Laboratory,
- Incubation of university startups on creative and IT-domains.

The “flows” will be guaranteed by organizing lots of special events, university courses and event-like activity forms:

- meetups,
- exhibitions,
- complex “thematic” programmes (quarterly),
- press conferences,
- smaller scientific conferences,
- public lectures,
- public university courses,
- computer game contests,
- computer art occurencies.

The Informatorium can serve and manage special international projects as a methodological and/or support centre. These international projects also provide platforms for participatory activities of different (individual and institutional) actors. For example:

- ***World Virtual Choir Centre*** (a service platform and methodological point for virtual chorus performances – for individuals and groups),
- ***Palaestria*** (a workflow tool to manage common research projects of scientists, teachers and students – hosting and development),
- ***Filmocracy*** (a Community Animation Film-making Centre).

One variation for virtual choir (illustration)

Afterword

The preparatory phase is near to its end, the building is almost ready. We are entering into possession of the spaces of Informatorium in October, 2012. At the end of 2013, after the first full year of operation we'll get enough experiences to share about the most successfull activities, about running this kind of complex spaces, the best practices, future possibilities and recommendations for similar projects.

MIL in Russia: Towards a New Paradigm

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The topicality of the problem of media and information literacy has been admitted these days by specialists in most countries, Russia being one of them. Merely five years ago, one could not even imagine an international conference being held in Moscow, attended by world experts in media and information literacy, in order to discuss media education in knowledge societies. This has become possible today owing to the purposeful efforts coming from UNESCO, including the initiatives of the Russian Committee of the UNESCO Information for All Programme, experts of various international organizations, as well as the pertinent Russian authorities and members of the media education community.

As a researcher in media education and media literacy, I am going to dwell in my communication on subjects that are close to my heart and to the hearts of my colleagues from various regions of Russia.

As things now stand, there have formed in the theory of media education two distinct conceptual trends. Both of these hinge on media and information, the core elements of communication. Both trends have bred their distinctive adapts, experts, scholars, and research vectors. At certain development stages specific research approaches were formed, specific notions, research tools and mechanisms, theories and models were elaborated. The notions of “media literacy”, “media culture”, “media education”, etc. have appeared in the media field. The field of information has produced its crop of “information literacy,” “information culture,” “information education,” and other new terms. Schools of research have been formed around the leaders of both trends, with hundreds of scholarly theses defended, books written, and school curricula developed and come into use.

It is transpiring now though that the independent and parallel existence of the concepts of media literacy and information literacy is rendering poorly efficient the information and communication practices while taking our scholarly discussion away from the essential problems of our time. It is obvious that media and information are two sides of one and the same process, that of communication. Information cannot exist without media, just as media become senseless if devoid of information. Persisting in our conceptual individualization of notions, functions and competences in the two trends leads up a blind alley.

We are living now through yet another stage in the evolution of our knowledge of communication. At this stage we witness a fusion of various types of media, various formats and categories, information delivery modes and professional competences. An essential turning point in the perception of the unity of the media and information space has started to emerge in recent initiatives and documents by UNESCO aimed at the formulation of universal competences of media and information literacy (MIL) as a new variety of literacy, literacy of the 21st century. It means that every individual should be able to realize their information requirements, find, evaluate, store and retrieve information, applying it efficiently in ethically correct forms for knowledge creation and transfer under conditions of pluralistic media to be used as a platform for a democratic discourse, under conditions providing for raising the professional level of media and for improving their infrastructural potential.

Over the past few years a number of significant steps have been made in Russia towards raising the MIL level of the population, among children and teenagers in the first place. Demonstration lessons are held in schools on the Media Safety Day. The latest federal education standards adopted in 2012 set forth the necessity of developing critical thinking. As of September 2012, the respective Federal Law features the requirement of informing the consumer of the age classification of the information products. The all-Russian Safe Internet Week is held yearly.

As yet another development, there have taken shape in Russia scholarly doctrines and media education research centres. The Russian Association for Film and Media Education has been active since 1988. The National Association of Mass Media Researchers was set up in 2011, with media education as a distinct sector of its structure. The Tchekhov Pedagogic Institute in Taganrog has been training further education professionals in Media Education since 2002. The Sholokhov State Humanitarian University in Moscow has established a chair of journalism and media education, the first one of this kind in Russia. It will train students to receive their master's degree. The course has been upheld by the UNESCO Institute for Information Technologies in Education. A similar chair has been established also at the Chelyabinsk State University. These facts show that journalism departments in Russian universities are seeking their niche in the system of media education.

Bilingual Internet sites devoted to media education are also operating in Russia. The portal of the Ministry of Education and Science of the Russian Federation has created a site named "Media Education Electronic Science Library." The "Media Education" journal has been published for many years and was included in 2009 into the official international catalogue of scholarly publications. The "Media Preschooler", the academic journal "Media. Information.

Communication", the East Siberian scholarly pedagogical "Magister Dixit" and other publications are run electronically. We should also put on the list the ZIRCON Research Group which, contracted by the RF Ministry of Telecommunications and Mass Media, is currently conducting its third sociological research on the "Evaluation of the Current State and Forecasted Evolution of Media Literacy Among the Population of the Russian Federation." They plan to use the results for developing a government policy to be aimed at raising the level of media literacy of the Russia population.

However it has become urgent now to revise the established views of media education and evaluate its potential for shaping the civic awareness. Is it possible for one to preserve intact one's intellectual integrity, given all the technological advancement of everyday life and the effect of the humanitarian, interactive and social technologies? What conditions are liable to provoke individual's conscious media behavior? In what way does media environment facilitate individual or collective creative media work for the benefit of society? These questions make part of the contemporary agenda of research in media education.

We stand now on the threshold of re-evaluating the totality of the media education experience. It calls for formulating new research assignments. But we run into certain difficulties in the process of their solving.

We have to state that, despite considerable progress, Russian media education has not yet acquired the quality of scientific knowledge. Actually all the theses on media education feature conspicuous absence of the common definition of media education adopted by the entire research community. No theory of the phenomenon has been advanced and no wholesome conceptual approach has been adopted, while the very notion of "media education" is viewed differently from a variety of vantage points. What is lacking is unity of purpose, of tasks, of content, of forms, of principles, of methods, and of means of implementation.

The media education paradigm itself lacks a well-defined scientific basis. As a result most Russian media pedagogues carry a very vague notion of the nature of media, which idea is pivotal for understanding the essence of media education. Numerous tests show that media teachers see "media" either as computer technologies or as media outlets. But neither of these reflects the complete range of the phenomenon. Left outside the limits of understanding stay the notions of media education as a tool for shaping the civil society, for shaping the new media and information conscience.

During the initial stage in the development of media literacy ideas in Russia there came to be shaped a certain pedagogical model of media education. It existed for quite a long period of time independently of the media society. Schools, with their traditional authoritarianism and paternalism, stayed as the main, and often the only, sites for the application of the media education

technologies. The teacher-student relations are structured along the rigid vertical line through a direct transmission of the available experience. This is why media education is viewed chiefly as a form of transmitting to the students the requisite knowledge and skills, the well-established truths and ethical standards. However an advanced – media – approach to media education is represented by interactive media communications based on partnership and informational equality.

The difficulties of media education development are largely due to the established political system. It is hardly productive to speak of critical thinking and genuine freedom of speech, when most mass media are owned by the state.

Russian journalists and people in the media industry are not enough interested in the development of popular media education. They are much more focused on reforming the media system, on the relations in the mass media market, problems of profit, competition and advertising. Few are those among them who prove civilian initiative in this field, organizing media education projects, such as journalism schools, festivals, and contests of budding journalists within the framework of their editorial activities. The belated revelation is coming that in the absence of a media-literate audience mass media have no future. Media companies are running into a deadlock – the undemanding audience calls for a poor-quality content. The poor-quality content results, in its turn, in a reduction in the number of readers, viewers and listeners.

To summarize, I feel compelled to formulate three needs which we, Russian scholars of media and information literacy, are experiencing now.

Firstly, the need for a closer inclusion of the Russian scholars, researchers, specialists and media teachers into the international processes of media education development. We are experiencing lack of platforms for discussing topical problems, for meeting peer experts and practical specialists. There exists an acute need for translated literature on media education and MIL.

Secondly, mutual exchange of advanced education curricula, methodological aids, and creative ideas could be of great use for all of us. There is experience to be shared. Multi-lingual digital resources and international multi-media platforms open for free access are required for that.

Thirdly, joint projects are one of the most efficient forms of joint work by individuals and organizations. The practice of developing and implementing international media education projects opened for participation of all interested countries should gain widespread acceptance. This represents a fine mode of intercultural integration, of intellectual and empirical mutual enrichment of scholars, practitioners and other specialists in the field of MIL.

UNESCO Information for All Programme could contribute a lot to organizing such projects.

Placing Media and Information Literacy at the Core of Instruction

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International initiatives

Article 19 of the Universal Declaration of Human Rights stipulates that everyone has the right to freedom of opinion and expression. This means that everyone is free to hold opinions without interference, and to seek, receive and impart information and ideas through any media across frontiers. Media and information literacy (MIL) empowers people with competencies needed to survive and thrive in this world full of fierce competition. UNESCO and IFLA have taken MIL as one of their top priorities. UNESCO has the Information for All Programme (IFAP) and IFLA has the Freedom of Access to Information and Freedom of Expression (FAIFE) core programme. Hence, before dealing with the heart of the matter in this paper, it would be appropriate to give a brief overview of the international initiatives that have taken place in the field of media and information literacy (MIL). Grunwald Declaration of 1982 emphasized on the need for political and educational systems to promote citizens' critical understanding of the phenomenon of communication and their participation in both old and new media. Similarly the Alexandria Declaration of 2005 underlines to place MIL at the core of lifelong learning. This paper is based on the spirit of the Alexandria Declaration because the author strongly believes that MIL empowers information seekers to seek, evaluate, use and create information effectively to obtain their personal, educational, professional and social goals. It is the basic human right that promotes equity to bridge digital divide and info-divide. Fez Declaration of 2011 endorses a far-reaching vision that today's digital age and convergence of communication technologies necessitate the combination of media literacy and information literacy in order to achieve sustainable human development, build participatory civic societies, and contribute to the consolidation of sustainable world peace, freedom, good governance, and the fostering of constructive intercultural knowledge, dialogue and mutual understanding. Similarly in 2011, UNESCO has also designed MIL Curriculum for Teachers. This curriculum focuses on the required core competencies and skills which can be seamlessly integrated into the existing teacher education without putting too much strain on already overloaded teacher trainees. The curriculum suggests nine core modules pertaining to citizenship, freedom of expression and information, access to information,

democratic discourse, lifelong learning, understanding the news, media and information ethics, representation in media and information, languages in media and information, advertising, new and traditional media, Internet opportunities and challenges, information literacy and library skills, communication, MIL and learning (a capstone module). The non-core modules cover audience, media, technology and the Global Village; digital editing and computer; camera shots and angles-conveying meanings; transnational advertising and super brands.

Prior to this a UNESCO Expert Group Meeting on the Development of Media and Information Literacy Indicators was held in Bangkok (Thailand) 04–06 November 2010. This meeting ascertained the MIL indicators in two tiers.Tier-1 indicators were input related to measure enabling factors that impact individuals acquiring media and information literacy skills. Tier-2 indicators were meant to measure individual competencies among teacher-trainers, teachers in training and in service, as well as among students. Keeping in view that the MIL skills must enable people to achieve their personal, educational, occupational, and social goals and also develop critical thinking and public opinion to survive and thrive in the world which is highly competitive, insecure, and uncertain, the author conducted an IFLA sponsored International Workshop on Health Information Literacy (IWHIL) at East West University, Dhaka (Bangladesh) on 27–30 July 2011. This workshop was based on the premise that people are the most important resource of a nation and only healthy people can contribute to the progress of nations. After this, one more workshop on Health Information Literacy (HIL) was conducted at the same university in January 2012 for the students and faculty of universities in Bangladesh. The Governing Board of IFLA has also endorsed the IFLA Media and Information Literacy Recommendations at its meeting held at The Hague, The Netherlands on 07 December 2011. IFLA recommends that governments and organizations to commission research on MIL, support professional development, embed MIL education in all lifelong curricula, recognize MIL and lifelong learning as key elements for accreditation of all education and training programmes, include MIL in continuing education programmes, implement MIL programmes to increase employability and entrepreneurial capacities, and support thematic meetings which facilitate the MIL skills and lifelong strategies across frontiers.

Empowering-8 and the IMIL Survey

Earlier the Empowering-8 Model of Information Literacy was developed by the participants of the IFLA Sponsored Workshop on Information Skills for Learning, hosted at Colombo in 2004 by the National Institute of Library and Information Sciences (NILIS), University of Colombo, Sri Lanka. This model is specially developed for the information seekers and teachers in the Asia-Pacific

region. It contains eight steps to effectively access and use reliable information. Follow-up workshops were held at Patiala (India) and Kuala Lumpur (Malaysia) respectively in 2005 and 2006. After this, to create a ripple effect at grass root level, eleven UNESCO sponsored Training-the-Trainers in Information Literacy Workshops were held in different countries of the world. Comprehensive report of these workshop is published in a special issue of International Information and Library Review by Prof. F. Woody Horton, Jr. Now a UNESCO sponsored International Media and Information Literacy Survey (IMILS) is being undertaken by twenty countries of the Asia-Pacific to generate baseline data for UNESCO about the information seeking behavior, attitudes, problems and media preferences of graduate information seekers. Later on this project will be extended to the other regions of the world. All these documents are easily available from the Internet by making a Google search. The author has been an active role player in all these events and is hopeful that the International Conference on Media and Information Literacy for Knowledge Societies being held at Moscow on 24–28 June would certainly set new standards for the promotion of MIL skills at the grass root level.

Google and librarians

Perhaps the future of libraries is uncertain as the end-users have fallen in the hands of commercial database providers and search engines like Google. Preservation of and access to our documentary heritage has been the historical mandate of libraries but now-a-days instead of buying documents, libraries are buying access from commercial database providers. Commercial providers are always interested in their profit and not in the public good. On the other hand, the Net Generation thinks that Google has answers to all their problems. That is not true, and at stake is the quality of information and future of libraries. Hence, there is an immediate need to develop media and information literacy skills of the stakeholders, and turn the rote learners into independent lifelong learners and critical thinkers. This is necessary as information from incredible sources is not always reliable. Information is now in over abundance and finding reliable information from the Internet is just like drinking from the fire hoses. Moreover, there is a lot of information deluge and the researchers are required to carefully find their way to the pertinent information they need. Searching, browsing, and retrieving reliable information are critical challenges these days. In fact, accessing relevant information on the Internet is just like hitting the moving object. The Net Generation is mesmerized with the speed with which Google presents links to them. But many a time quality is at stake. Inaccurate information can mar

the future of students in a fraction of a second while accurate information is instant power. Though libraries these days are not the only sources of information, they are reliable sources of information. It is very well said that if you have time to waste you can go to Google and if you don't you'd better go to a library. In libraries, everything is selection based and under control. But on the Internet, a lot of effort and skill is needed by the information seekers to manage access to quality information. Moreover, Google and commercial publishers are another name for commoditization of information, whereas library is a social agency for the public good. Students need to be equipped with MIL skills and libraries need to be made second home for them. Otherwise inaccurate information would lead to wrong decisions that would further mar the future of students, in other words the future of nations.

Promises and perils of the new media

TV channels and the new media have virtually overtaken the print-on-paper paradigm. Though the new media have the capacity to provide 24/7 real-time access to information, yet various TV channels are also adding to daily problems of the viewers. Instead of informing the masses, these channels in India are competing with each other and sometimes make issues of the non-issues. What is breaking news in the morning becomes barking news in the evening. Media is virtually setting the agenda and many-a-times misguiding the masses. In such a situation, it is required to equip the stakeholders with media and information literacy (MIL) skills to promote critical thinking among them and also to convert typical information consumers into informed citizens. Only vigilant viewers and critical thinkers can contribute to the sustainable socio-economic development of nations. People must be able to ascertain the role, functions, and motives of the media. They should also be aware of the conditions under which the media operate. Gagging, censorship and misuse of the media must not be allowed by vigilant citizens. Similarly the media must also not be allowed to twist arms of the stakeholders without any rationale. Content evaluation and then ethical and legal use of information and media are most important aspects of MIL skills. Stakeholders must also be trained in content creation and communication. Simply speaking, MIL skills are the *sine qua non* for creating and leading a change in the emerging knowledge societies. The critical challenge for present day teachers and academic librarians is to effectively educate and train students in the art of strategically collecting information from the Internet and other sources in ways that give the best sources in a cost-effective manner in the smallest amount of time. To be effective information managers, students must be equipped with media and information skills for effective searching. Students need to look

beyond their academic assignments to be able to complete their research work. If educational institutions are to prepare graduates to be world-class professionals, then they must place media and information literacy skills at the core of instruction across frontiers. This can best be accomplished when librarians in collaboration with classroom faculty instill media and information literacy instruction into the curriculum. “Librarians, librarianship and libraries have always a leading role in the advancement of knowledge and the pursuit of learning. It has been the extremely close symbiotic collaboration between school teachers and school librarians that led to the information literacy idea in the first place” (Horton Jr., 2009, p. 119).

The challenge before librarians

The challenge before librarians is how to develop partnership with classroom faculty to share the responsibility of teaching students the value of a library. Another challenge is to free the information seekers from the clutches of Google and Wikipedia. Google and Wikipedia can be good starting points, but these tools can not be the final authority on reliable information. Librarians must collaborate with the faculty to understand the problems that students face when they use computers and networks for searching and browsing the web-based information. This can be done only by treating media and information literacy skills as the heart of education, and faculty-librarian partnership must be encouraged to develop critical thinking and independent learning in students. The Net Generation is not well versant with the print-on paper paradigm and the treasures of learning resources which libraries have for them. They most likely did not grow up with a stock of good books in their homes because for them the Internet has quickly replaced print sources as a primary and reliable platform for information. The problem with replacing the print-on-paper encyclopedia with Wikipedia is in “assuming” the reliability of information that comes from the Web. The implications of using the information that is retrieved only from the Internet without the filter of media and information literacy skills are immediately visible to anyone who teaches research-based writing. The following example clearly shows innocence of the students with which they trust the reliability of information they find on the Internet. One of the students retrieved unreliable information from the Internet, and also used information from a credible source without giving its reference. When the teacher warned him of the inaccuracies of the retrieved information and the plagiarism issue pertaining to the not cited source, the student innocently told the teacher that no one has ever taught him such things. This speaks volumes about a teacher’s responsibility to equip students with MIL skills. The best way to do this is to introduce MIL courses at all levels of education across different streams.

Shift from stacks to computers

The majority of students enter a library to turn away from the books stacks and use networked computers to navigate beyond the boundaries of the library databases to the seamless horizons of information on the Web. Going to a library as a place to access virtual resources and services is against the spirit of the library's mandate, as well as the 24/7 nature of the Internet. ICTs and the Internet have given a death blow to the traditional constraints of space and time but these dynamic developments have not been able to change the static mind-set of majority of the information seekers. Techno-savvy students know how to blog, create websites, download texts and post to YouTube, but don't have the critical abilities to use the Internet as a research tool and resource. This means that teachers must revise the curriculum to include media and information literacy. But librarians also have a pivotal role to play. "If, as all available evidence indicates, students and faculty are increasingly relying on Internet sources, then it is vital that what they rely on be of good quality and readily accessible. This is of importance not only for library patrons but also for librarians themselves." (Proctor, 2009, p. 435).

Conclusion

Recognizing the challenges that face novice researchers, librarians and teachers can help students to beat the info-glut that exists on the Internet. Rather than being overwhelmed by a flood of information, students can learn how to carefully search and browse the Internet. MIL skills are not innate, rather these need to be taught in a systematic and cumulative way in the classroom and in the library and at any place where research is conducted. This is a task that is best accomplished by teachers who collaborate with librarians to enable students to see librarians as the information service professionals who can make students effective information managers. It means that libraries must redefine their role and library professionals must aggressively promote user education and MIL skills. ICTs cannot provide human touch but librarians can certainly do that by becoming pro-active professionals and effective MIL trainers. Having a collaborative approach to teaching media and information literacy skills reinforces the notion that library and research skills are integral to any education system that seeks to prepare students to be critical thinkers and independent lifelong learners. We need to change perception of the libraries as repositories and redefine them as pro-active service centres staffed by information professionals who are educated and trained in effectively using the entire information and communication system by which information is created, shared, stored, managed, and used. The challenge before librarians is how to collaborate with teachers to promote among students the use and value

of the library. Another challenge is to free them from the grips of the Google and clutches of Wikipedia and blogs. Librarians and faculty must work together to understand the obstacles that students face when they use computers and networks for searching and browsing the web-based information. This can be done by treating the media and information literacy as the heart of educational programmes and placing MIL skills at the core of instruction for developing critical thinking and independent learning skills in students. In fact, if information is fish, then MIL is the art of fishing. It is incumbent upon the faculty and librarians to equip students with MIL skills to enable them to be quality information managers, critical thinkers, independent learners, opinion makers, and vigilant citizens who understand the role and function of the media and the conditions under which the media operates and with which motives. MIL skills can enable students and other stakeholders to enjoy the bliss of truth and truthful living.

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Computer Literates and Information Illiterates

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The term and the concept of information literacy (IL) is almost 40 years old; it was used for the first time by Paul Zurkowski in 1974. Yet, there is no general consent on its meaning and content. Sometimes "information skills", "information capacity", "information competency" and "informaton fluency" are used as synonyms. There are educational researchers who draw parallels between linguistic and information literacy and write about its three levels: elementary (basic knowledge about existence of different modalities of reaching information); functional (functionally applying what we have learned, thus making our knowledge permanent, verifiable through experience and usable); and achieving information culture (a state in which functional characteristics become a lifelong habit). Culture is preceeded by literacy and it is different than common, technicaly-formal literacy because of its ethical dimension[1].

In literature, as well as in everyday life, we deal with ICT, digital, e-literacy, media, net, library literacy, even with transliteracy (an overall ability to read, write and communicate accross different platforms, tools and media). IL is most often mixed with a more technical set of skills, computer literacy – its neccessary, but not sufficent precondition – and with media literacy.

There are many tries to set boundaries between IL and other two kinds, just to mention a clear distinction by Horton[2], where:

"Computer literacy. The knowledge and skills necessary to understand information and communication technologies (ICTs), including hardware, software, systems, networks (both local area networks and the Internet), and all of the other components of computer and telecommunications systems."

"Media Literacy. The knowledge and skills necessary to understand all of the mediums and formats in which data, information and knowledge are created, stored, communicated, and presented, i.e., print newspapers and journals, magazines, radio, television broadcasts, cable, CD-ROM, DVD, mobile telephones, PDF formats, and JPEG format for photos and graphics."

[1] Jurić, S. (2008). Between elementary, functional and information literacy. In: Vraneš, A. et al. (Eds). Information Literacy and Lifelong Learning. Belgrade: Faculty of Philology of Belgrade University, Serbian Library Association, pp. 267-268

[2] Horton Jr., F. W. (2006). Comments on International Guidelines on Information Literacy. (E-Mail), Washington, DC, 2004, December, 4 p. In: IFLA Guidelines for Information Literacy and Lifelong Learning, ed. by Jesús Lau, p. 7. The Hague: IFLA.

In the Alexandria proclamation (2005) computer, media, and information literacy are among the six "survival literacies" for the 21st century. The proclamation admits that "boundaries between various literacies overlap, but that they should be seen as a closely-knit family"[3]. It states the following core abilities that constitute IL: effective seeking, evaluation, usage and creation of information.

There are two more definitions that ought to be mentioned: ALA's and IFLA's. In 1998 American Library Association (ALA) adopted a definition that in the meantime became commonly used and cited. It stresses practical side and brings down IL to specifical skills. Main terms are: need, locate, evaluate and use. International Federation of Library Associations and Institutions (IFLA) builds its definition around three concepts: access, evaluation and usage. IFLA Guidelines for Information Literacy and Lifelong Learning are simple enough (with three basic elements) and abstracted to the level of generality to enable them to be widely used.

In a clear hierarchy: knowledge society – life-long learning – information literacy, it is much easier to determine the first two elements than the last one. Easier in a sense of setting definitions, ways and methods of achieving them and of measuring those achievements. Defining something, determining methods of performing it and of measuring that performance is a base for its standardization. Where is IL in respect to those three preconditions? Its field is still not universaly defined. It is not possible to list universal methods for achieving it for several reasons: individual and group needs and purposes of information use are multiple; political, societal and tehnological conditions in different countries vary considerably; and not all nations accepted the same concept and aims of development. The specific relationship between information and knowledge and the very nature of information make it very difficult to measure the degree to which somebody is successful in "evaluating the information and its sources, in including the chosen information in one's knowledge base and in classifying, storing, manipulating and adjusting it", as ALA puts it.

In "Towards Media and Information Literacy Indicators"[4] authors note that rarely we meet completely literate or completely illiterate people. They are variously literate according to their various environments and needs. It means two things: any literacy is situational, as well as dynamic, since its content changes and adjusts in the course of time. Therefore, there can be no universal definition of IL. In another related paper[5] it is "recommended that the latent trait measurement model be applied to IL indicators so that IL can be considered as a continuum of capacity. This measurement model will allow nations to

[3] Horton Jr., F. W. (2007). Understanding Information Literacy: A Primer. Paris: UNESCO, p. 3.
[4] Moeller, S. et al. (2011). Towards Media and Information Literacy Indicators. Paris: UNESCO, p. 10.
[5] Catts, R. and Lau, J. (2008). Towards Information Literacy Indicators: conceptual framework. Paris: UNESCO, p. 8.

determine their employment, education and social goals for IL skills and to adjust these over time as a need arises. It avoids imposing a common set of criteria for IL attainment across vastly different contexts".

Following the constructivist approach to learning, IL is also referred to as "critical thinking" or "learning to learn". It involves higher mental processes (such as applying, synthesizing and evaluating information), and there is a grey zone for standardization and measurement because of singular, dynamic and ambiguous nature of these processes and their outcomes. As far as the critical thinking is concerned, there is not much new about it. People were achieving it for centuries through being exposed to different sources of information, from different points of view, through reading, observation, reflection and posing questions. There is no fast, nor easy way. New is only the modern vocabulary, the digital environment where building personal critical aparatus is more and more taking place, and the amount of available resources. It is not clear yet if that enormous expansion causes only quantitative changes or if it brings qualitatively new paradigm.

Proliferation of digital content and ever encreasing technological availability and ease of accessing and using it brings serious ethical issues to the forum. No wonder that authors of respectable international surveys (e. g. LAMP) do not deal with them.

On a general scale, if we declare reading someone's mail messages as unethical, for example, one must ask a question: in the era of social media and unpreceeded attention-seeking, self-advertizing and exhibitionism, of talking about private or confidential business matters on a cell phone in crowded public transportation, of tweeting our most personal moments, of commenting Facebook profiles, what new could be found about someone from his/her e-mails? Is a student who excellently masters information literacy skills at the university, but is otherwise heavily engaged in some of these practicies, an information literate or illiterate?

Even norms and conventions that usually rule the academic environment come under question. In January 2012 a blog of Cambridge mathematician Tim Gowers against Elsevier started an avalanche: some 10,000 scientists announced boycott of Elsevier and signed a petition asking for change of this academic publisher's practicies (although their objections are applicable to the whole industry). Some of the first results were that: Elsevier drew back its support to a controversial Research Works Act; the Harvard Library's Faculty Advisory Council came out with a statement declaring that it "is fed up with rising costs, forced bundling of low- and high-profile journals, and subscriptions that run into the tens of thousands of dollars. So, it's suggesting that the rest of the Harvard

faculty focus on open access publishing"[6]; and The World Bank created their Open Knowledge Repository to publish many free-to-read articles.

Normally, it is good to have an area standardized. But, stadardization of IL has sound critics, such as Webber and Johnson[7], Graffstein[8], Jacobs[9], Holschuh Simmons[10]. They argue from library and information science and from educational point of view that it is counter-productive because it too much simplifies complex higher mental processes (critical thinking, interpretation of information, evaluation and ethics of usage), by bringing them down to simplier and measurable skills.

In creating standards it is also neccessary to distinguish among different disciplines and different needs. In LIS publications one can frequently read warnings against literal application of translated foreign standards and guidelines, merely of those widely known, produced by ACRL and ALA.

A whole set of ethical, financial, educational and other issues and dillemas appear in a new, more poignant light and is imposed on those who deal with IL in Web 3.0 societies that are predominantly characterized by constant online presence, googling, user-generated content and social networking. Controversies are basicaly caused by human nature, as well as by dominant legal and ethical concepts that are more than ever perceived as out-of-date and hence inadequate for the current state of affairs in the area of intellectual property.

Among other characteristics, humans are mimetical beings and they are driven by the principle of the least effort. In his book "In Praise of Copying" Marcus Boon[11] writes that mimesis and act of copying are inherent to us, yet our relation to them is ambiguous, just as most philosophical examinations of copying split it into two forms, a good and bad one: a proud father is happy because of his offspring's physical resemblance to him, but a manufacturer of a fake Louis Vuiton bag will be legally prosecuted; a nine-year old school child gets grade A for the interpretation of a poem leared by heart, but a student will bear consequences if caught in plagiarism and copy-pasting.

[6] Timmer, J. (2012). Harvard Library: subscriptions too costly, faculty should go open access. ArsTehnica, April 23. http://arstechnica.com/science/2012/04/harvard-library-advises-itsfaculty-to-go-open-access/.

[7] Webber, S. and Johnston, B. (2006). Conceptions of information literacy: new perspectives and implications. Journal of Information Science, Vol. 26, no. 6: 381-397.

[8] Graffstein, A. (2002). A Discipline-Based Approach to Information Literacy. Journal of Academic Librarianship, Vol. 28: 197-204.

[9] Jacobs, H. L. M. (2008). Information Literacy and Reflective Pedagogical praxis. Journal of Academic Librarianship, Vol. 34, no. 3: 256-262.

[10] Holschuh Simmons, M. (2005). Librarians as disciplinary discourse mediators: using genre theory to move toward critical information literacy. Portal: Libraries and the Academy, vol. 5, no. 3: 256-262.

[11] Boon, M. (2010). In Praise of Copying. Cambrigde, Massachusetts, England, London: Harvard University Press, p. 108.

One of the principal arguments against copying is that it involves an act of deception, that something is outwardly presented as something else. It brings us back to Plato and his moral objections to mimesis: artist's imitation confuses us as to what is real. In the context of seeking and using information, the "real" would be new, original information, as well as existing one that is reliable and useful. Process of evaluation determines if it is so or not. Therefore, that skill appears to be the most critical one in the complex of IL skills.

But people act following the Zipf's law, too. Firstly formulated in linguistics, it proved to be appropriate to the wider area of information seeking. Very often people are willing to sacrifice broadness and reliability of sources and to accept nearest sources at hand. The British Library and JISC commisioned a study[12] that presents a try to predict information behaviour of future researchers. It was based on objective, factual, deep log analyses (through a period of five years) of behaviour of today's school children, as well as of adults from academic environment, in accessing and interacting with digital resources available from services Learning and Intuite. BL Learning is a service aimed at school children and teachers while JISC Intuite service is amied at the university community.

While busting the myth of a universal, consistent Google generation, the study detected certain mutual characteristics of today's children, students, lecturers, researchers and practitioners. Their behaviour is shaped by massive digital choice, unbelievable until recently (24/7) access to scholarly material, disintermediation, and hugely powerful and influential search engines. These are: horizontal information seeking (a form of skimming activity); navigation (a lot of online time spent simply on finding the way around); viewing (short average times spent on e-book or e-journals sites, typically 4–8 minutes); power browsing (horisontal passing through titles, content pages and abstracts); squirreling behaviour (much downloading, especially if the content is free, with no evidence if and to what extent it is further used); diverse information seekers (one size does not fit all); checking information seekers (users evaluate authority and trust by themselves in seconds by cross-checking different sites and by relying on favoured brands – e. g. Google).[13]

An interesting moment is that comparision with older studies, some even fifteen years old (pre-dating the Internet) show that a little has changed. In the time of prevalent presence of offline databases teenagers and students did not review information retrieved for relevance, often showed difficulties in selecting appropriate search terms and preferred full-phrase searching. Authors of the study claim that careful look at the literature over the past 25 years, as well as findings from log analyses, found no evidences of improvement or deterioraton in young people's information skills.

[12] Information behaviour of the researcher of the future. London, University College London, 2008.
[13] Ibid, p. 10.

One of final conclusions of BL-JISC study is that it is of vital importance to reverse the process of dis-intermediation that turned everybody into information professionals. In a wider sense that is the main topic of best selling books by Andrew Keen "The Cult of the Amateur" and "Digital Vertigo". Keen's views have additional weight since he is a sort of convert from an eager Silicon Valley player to its opponent. Web 2.0 started the process of radical change and redefiniton of media, information, knowledge, content, audience, author, under the slogan "democratizaton". Keen deals with areas of journalism, music and film industry but many of his observations are applicable to other fields, e. g. publishing or education. In fighting against "the dictatorship of expertise" it seems that with Web 3.0 we finaly gained anarchy instead of democracy. While democracy and possibility for everyone to have a voice is suitable in politics and social life, "radically democratic approach to culture, scholarship or creation of knowledge is not possible primarilly because today's world is highly specialized, excellence is rewarded and to become a professional it takes years of training"[14].

In 1939 Borhes wrote a short essay "The Total Library" that was an embrio for his later and more famous story "The Tower of Babel". In the essay he described the confusion of an infinite library, one without corners, or centre, or logic. Instead, it is a chaos of indefinite, maybe infinite information stored in confusing hexagonal galleries. There is an unpleasant similarity to today's Internet: predominantly anonimous, unreliable (and very often incorrect), hard to navigate and chaotic, elusive and overpowering. As far as we know, intermediators, such as scholars, editors, critics, librarians... sometimes called "cultural gatekeepers", are the only instances standing between us and that ocean of insecurity, the only ones capable to create islands of organization and reliability of information.

On the other hand, a prevalent model of nowadays society is the "commodity society". It means that (almost) everything is a commodity and that, as such, has price, its exchange value. That value is an abstraction of labor spent for production of a certain commodity and therefore the commodity itself is seen as an object. Attribution of exchange power – and other powers, such as confirmation of a status – leads to fetishism. Bruno Latour even coined a neologism "factish" to denominate that process in the field where one wouldn't expect it: in producton of scientific knowledge. Scientific production and publishing became an industry, as well as work of scholars and researchers, where they, as "producers", are ruled by "publish or perish" and "be cited or die" laws. It is a long way from bibliometrics and scientometrics works of Bradford, de Solla Price, G. M. Dobrov, V. V. Nalimov and Z. M. Mulchenko, to practices of present online academic publishers and of Information Science Institute (ISI) with its indices: SCI, SSCI and AHCI; with their complicated and expensive organization, numerous staff and immoderate appetites for profit.

[14] Keen, A. (2007). The Cult of the Amateur. New York: Doubleday, Currency, p. 37.

The information that is free of charge and of any kind of authorization isn't free. Most obviously, it costs us more and more time to equip ourselves with appropriate skills to find valuable and useful one. It even hurts our wellfare or health in case we use inappropriate or false information. Payed information, on the other hand, seems getting out of control regarding prices and conditions of access and use. IP and copyright legislation is increasingly complicated and restrictive and we are witnessing so called "copyright wars". Google Books project and boycott of Elsevier are just examples. If one can legally or half-legally download a song for as little as 15 cents while a music CD is sold for 14 dollars, maybe the answer is somewhere in between?

According to a recent survey[15], one of ten metatrends that will impact educaton over the next ten years is that "The Internet is constantly challenging us to rethink learning and education, while refining our notion of literacy. Institutions must consider the unique value that each adds to a world in which information is everywhere." As long as there are cases such as an institution of higher education[16] where an IL course for academic staff was renamed into "Information resources training" because the word "literacy" was perceived as offensive, the ability of educational insitutions and information providers (such as libraries) to cope with this metatrend is under question. The same goes for the significant resistence or ignorance – shown in numerous surveys in different countries – of government bodies, educational administrations and teachers to incorporate IL *into* subject courses, even to create separate courses. Ability to find, evaluate and use information in the course of time is essential for creation of individual's basic structure or framework of facts. Without that structure, no matter the amount of technology used, an individual will be lost among single trees and unable to cope with demands of life in modern social forests.

[15] A Communiqué from the Horizon Project Retreat, 2012, p. 2. http://www.nmc.org/pdf/2012-Horizon-Project-Retreat-Communique.pdf.

[16] Secker, M. A. A humanistic approach to information literacy training: the programme at the Commonwealth Scientific and Industrial Research Organization (CSIRO). Rockhampton, J. M. Rendel Laboratory. http://www.une.edu.au/sat/pdf/CSIROliteracy.pdf.

Children and Mass Media in the Arab World: A Second Level Analysis

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Introduction

In the old days, childhood was not well nurtured. Children were seen as savage creatures that must be avoided. No one cared for children, and they were far down the list of priorities in the family and human interest. This was the case in ancient times and even during the middle ages. The child was a savage with respect to its behaviour, and education was crucial in changing this behaviour.

Jean Jack Rousseau was a pioneer who brought about some changes in this view. Ever since, the interest and care devoted to children moved to different sectors. The child who was nothing now became everything.

This new view of children prevailed around the world. Attention and care given to children accompanied the introduction of the cinema at the turn of the 19th century. It was natural that the cinema paid a great deal of attention to children as this was in fashion during that era. This interest in children and production of children's movies continued through World War I, and were followed by the introduction of children's programmes on television during the 1950s.

Care for children became obvious in all countries of the world around the turn of the 20th century. In 1989, a world summit for childhood was held. Starting from that date, most countries began offering special care for children. The needs of children were to be given the greatest priority, and attention to children was also obvious in the universities and academies, where a great deal of study and research was focused on children, their general and cultural needs and education.

When we talk about children and the media, the most common media are cinema and television. In fact, they have more effect on children than other media (such as print or theatre) do. Although these two contradict each other, and actually compete (television has been accused of stealing audiences from cinema, especially in the Arab world (Dehny, 1993, pp. 38-42)), they complement each other.

This paper contains two main parts: the first concerns a review of children's and mass-media research literature in the Arab world and presents findings

from different research projects and studies conducted in the Arab world. The number of these studies is great; we manage to cover most of this volume. It was found that most of the reviewed studies were conducted during the 1990s and were mainly Egyptian, but also came from Saudi Arabia, the United Arab Emirates and Jordan. The second part presents a second level and an overall analysis of the findings of these studies, i.e. a conclusion and recommendations.

Reviewed studies were classified into four categories:

1. Children and mass media in general
2. Children and television/cinema
3. Children and print media
4. Children and radio

Children and mass media in the Arab world

This section discusses the findings of studies related to children and mass media in general.

Findings of a study conducted on Egyptian children's use of media, on a sample of 1800 children aged 8 to 15 years and 600 parents (mothers and fathers), have shown that the most important time for watching television was the peak time from 6 to 9 p.m. (El Hadeedy et al., 1991). Most children (99%) mentioned that they watched children's programmes, which came in the first place ahead of Arab movies, cartoon films and commercials. Children's preferred programmes were cartoons, magic games, stories and tales, children's series and puppet shows. Topics preferred were police adventure, religion and social issues.

Children also mentioned listening to radio (45%). The peak listening time was 6 to 10 a.m., and then 3 to 6 p.m. Preferred radio programmes included music and song, as well as religious programmes. Children's programmes and news bulletins were also preferred. Preferred radio subjects included stories and tales.

With respect to parents, it was found that more than two-thirds of parents watched children's television programmes, whereas only 8% listened to children's radio programmes. Parents encouraged their children to watch certain kinds of programmes, such as religious programmes and children's programmes rather than adult ones. Parents mentioned prohibiting their children from watching violent programmes. They also mentioned that some television commercials could cause problems for children as they felt they

could not afford to buy the advertised products, and that some of these commercials did not match the ethics and values of the society.

A study on Egyptian children's use of the book, cinema and theatre was conducted on a sample of 440 children from Cairo aged 6 to 15 years (Kandeel, 1997). Variables of age, gender, geographical area, social background and level of education were taken into consideration. Findings showed that 49% of children did not read books and that children who read books regularly represented only 22%, with the books they read being mainly stories, adventures and police books. The social background factor has an influence on children's reading of books, as middle and upper-class children are more frequent readers than working class children.

With respect to the cinema, findings showed that nearly a quarter of the children interviewed (26%) went to cinema. Action and violent films were the most preferred (95%) by children. More than half the interviewees (56%) preferred Arab films. Children from working class families were heavier users of the cinema than middle and upper-class children.

Children almost never went to the theatre, but did mention a preference for comedies and puppet shows. Circus and children's choral performances were not mentioned at all.

Egyptian children's use of mass media was the topic of another study (Kandeel, 1993) conducted on a sample of 260 children aged 8 to 12 years, boys and girls, from urban areas. The findings showed that more than half the interviewed children read newspapers (57%) and magazines (62%). There was no significant difference between boys and girls in this respect. Listeners of radio represented 67% of the sampled children and television viewers represented 97%, showing that television was the most used medium.

Findings also showed that children's reading of newspapers depended to a great extent on their socioeconomic status and ability to read and write. Therefore, older children read newspapers more than younger ones. Children's motives for reading newspapers included searching for news and current affairs as much as for entertainment.

Children's preference among newspapers depend on the availability of newspapers and easy access to them. The use of coloured pictures and drawings and easy readability, as well as coverage of crime and show business, are the key reasons for reading a given newspaper.

Due to the higher prices of magazines compared to newspapers, children's use of magazines depends largely on the economic situation of their family and their parents' opinion on the importance of magazines. Fun and entertainment

are the main motives for reading magazines, and those with pictures and colours are more attractive to read. Stories and tales also determine children's preferred magazines.

The peak time for listening to radio is early morning before school (before 7:00 a.m.). Listening to radio was mainly for fun and entertainment. Therefore, music and songs are the most preferred radio programmes while listening to news and seeking information is less important.

Regarding television, entertainment and passing of leisure time (35%) are the most popular motives for viewing television. Taking a rest from studies (29%) and seeking information (24%) are also mentioned.

In a Jordanian study on the influence of mass media on the child, conducted on a sample of Jordanian children (Hindy, 1998), the aim was to examine the influences of television, radio, the press, cinema and video on the child. The findings showed that the influence of mass media on the child was accumulative and varied from one medium to another. Television was found to be the most influential medium on the child, followed by video. Other media were less effective. The study also found that the media had both positive and negative effects on the child.

Generally speaking, all children's materials are not of high quality compared to those directed at children in Western countries. People working in the field of production and presentation of materials for children are not very qualified and also need serious training. Finally, there is a great difference between findings of Arab studies and those from other countries, due to different cultures and environments.

Labib (1994) conducted a study on the child's right to adequate media materials. He found that although the amount of books for children had increased recently, economic circumstances and the high price of books had made it difficult to buy them. Children's magazines were also not very successful. They were merely translations of foreign materials and did not sufficiently inform children about current events, nationally or internationally.

Spaces devoted to children's material in the Egyptian newspapers were very limited, irregular and mainly addressed children over ten years of age. Material for children under ten years was hard to find.

Egyptian television was an important medium for children. Television has managed to take listeners away from radio, and also attracted children to watch their own programmes as well as those for adults. It was also found that the Egyptian child had free access to television except during exam time. Egyptian children were exposed to a great deal of imported foreign materials and commercials in addition to programmes on satellite channels. This material was found to comprise useful sources of information for children in different domains of life.

The role of mass media in increasing Egyptian children's cultural awareness was the topic of another study (Sabry, 1995). It aimed at examining the role of mass media in satisfying the child's cultural needs. Its findings showed that television was the most important medium for children. Eight per cent of its programmes were devoted to children, of which 90% were foreign programmes, mainly American. It was also found that violence was very common in children programmes. According to the study, this type of programme increased children's tendencies toward actual violence.

In his study on the role of local Egyptian media in providing the child with information, Hassan (1989) conducted a content analysis on a sample from children television programmes, newspaper materials and radio programmes. The study also included interviewing samples of individuals who worked in media and were in charge of children's programmes and materials, as well as 400 children aged 9–12 years.

Findings from the study showed that all three media presented something for children, weekly or on Sundays. Children participated in their television programmes (72.2%), print materials (52.2%) and radio (25%). Religious information was the most common in all three media.

Interviewed children mentioned that they needed more information on topics such as Egyptian history and public figures, as well as animals and new discoveries. With regard to children's admiration of their own programmes and materials, TV programmes came first (91.6%), print materials in newspapers were second (89.6%), and radio programmes ranked third (44.2%).

Findings from interviews with those in charge of children's programmes and material showed that they were all qualified and university graduates. They all agreed that most of their programmes and material were directed to children aged 6 to 12 years.

Children and television/cinema

Studies related to children and television/cinema will be reviewed on the following pages.

El Semary (1995) conducted a study on the influence of exposure to television on the reading habits of the Egyptian child. The study was performed on a sample of 300 children, males and females, aged 9–12 years from Cairo (urban area). Its findings show that television affects children's reading habits, especially in older children who can read and write. For example, they may read while watching television or while talking to other members of the family. Television also influences children's preferred reading materials. It was also found that there were other reasons, besides television, that discouraged children from

reading, e.g. heavy homework load, lack of parental encouragement to read and the school's failure to support their reading.

In a study on children's perception of the personality characteristics portrayed in children's programmes, Kamel (1995) found that television was an attractive medium in influencing children. Kamel's findings showed that there were differences between boys and girls with respect to the influence of television. Girls were more influenced by characteristics such as friendship, sincerity or belongingness, whereas boys were more influenced by characteristics of honesty, trust and cooperation. Boys were also more influenced by violence and aggressiveness, egoism and individualism. Girls were more influenced by characteristics of "not liking to work" and "staying at home" and were more likely to appreciate beauty than boys, who were more influenced by comedian characteristics.

Finally, the study concluded that television's influence on children depended on their interests and attitudes as well as their socialization.

A study on children's perception of the difference between screen personalities and those in real life (El Sayed, 1996) examined the influences of factors of age, gender and social circumstances. The study was conducted on a sample of 114 children, boys and girls. The sample was divided into two groups: pre-school (3–5 years) and primary school (6–8 years) children. An experimental approach was used, by which data were collected from children after exposing them to specific children's programmes. The study's findings show that there was a negative relationship between the age variable and perception of the televised reality. The relationship was also negative between watching television with others and the perception of televised reality. The gender variable did not show any influence on the children's understanding of televised reality.

Hassan (1995) conducted a study on a cluster sample of 540 Egyptian children aged 12–15 years from urban and rural areas. The study was aimed at examining children's attitudes regarding their programmes. Its findings showed that children were more interested in adventures and action programmes (fun and entertainment), and less interested in educational, scientific and economic programmes. The study recommended that special programmes for teenagers be introduced.

El Hadeedy (1990) conducted a study on children's cinema in the Arab world. The study's sample was taken from children aged 8–12 years, boys and girls from 12 Arab countries. It was found that children's cinema was available in all the studied countries except two, Mauritania and Djibouti. Children's films were available in many places, and were watched in cinemas, schools and public places. It was also found that production of children's films was available in only four countries, i.e. Egypt, Sudan, Iraq and Qatar. Besides local production

in these four countries, all Arab countries relied mainly on importing children's films and programmes (i.e. animated films, puppet shows, documentary films, experimental films, variety shows and educational films) from Western countries, especially the United States and England.

With respect to children's preferences, it was found that they liked Arab films as well as foreign ones. Adventures and action movies were preferred by boys, while girls preferred social and love stories.

The topics of children's films were mainly motion pictures (100%), variety (70%), drama (70%), documentary (70%), experimental (40%), and educational (30%). Only Egypt and Iraq have participated in international festivals and contests related to children's films.

Reda (1994) conducted a study on the impact of televised violence on children's behaviour on a sample of 200 parents from Cairo and its surrounding areas. The study's results showed that 64% considered television as a major responsible element in children's violent behaviour and believed that television was to blame for the bad language that children used. Parents also mentioned that they were obliged to interfere in most cases to determine what their children should and should not see, especially as children watched adult programmes in most cases.

The majority of parents (83.5%) also blamed foreign programmes and films for their children's violent behaviour. This situation was even worsened with the introduction of satellite television. A strong relation was also found between the educational level and socioeconomic status of parents and their awareness of the danger of television in increasing their children's violent behaviour. The same factors influenced parents' control of what their children watched on television. Parents from higher classes and with higher educational levels were more likely to control their children's use of media in general, and of television in particular.

The role of animated films in the cognitive development of children was examined in a study conducted on a sample of Egyptian children, boys and girls in primary schools aged 7–8 years. It also included a content analysis of a sample of 19 television series and 14 animated films (Hassan, 1998). The findings showed that screening of children's programmes occurred at the wrong time, when children were not at home; programmes were screened more on schooldays than during weekends and holidays. Therefore, children's exposure to these programmes was very limited.

The study recommended that the timing of children's programmes be changed to allow children to see more of them during their leisure time and days off from school. Most of the screened programmes were translated foreign programmes. There is a real need for the production of pure Arab programmes that would take into consideration the interests of the Arab child.

A content analysis study (Ibrahim, 1994) was conducted to examine the portrayal of homeless children in a sample of Egyptian televised programmes from the main three channels, as well as in the press. The sample period was three months (July–September 1992).

The results showed that the portrayal of homeless children in most television programmes as well as in the press was very weak and superficial. There was more concentration on models of example children, children's festivals and feasts. In the press, homeless children received more coverage in human-interest stories and accidents. The press coverage of stories on these children tends to consider lack of education, large number of children and domestic problems to be the main reasons.

In a content analysis on a sample of 608 TV commercials, the role of television advertising in forming children's values was examined (Rezk, 1995). It was found that only 8.2% of commercials were directed at children. These were commercials for products for children (e.g. diapers, ice-cream, sweets, etc.). Such commercials may ultimately teach children consuming habits that sometimes do not match the standard of living of their family, and this causes the child to ask for things their parents cannot afford to buy.

It was also obvious that a great deal of the commercials (65.5%) spoke to the upper middle class in society, concentrating mainly on consumer goods and cosmetics or welfare goods such as expensive cars and trips. This, according to study findings, may lead to depression in children who cannot afford these kinds of products. There was also a tendency to impose on the child a cultural alienation, especially Western style, rather than belonging. This leads to a conflict between culture of society and other imported cultural patterns.

A study was conducted on the role of television in increasing Egyptian children's environmental awareness (El Keleeny, 1993), on a sample of 300 children (aged 10 years) in primary schools in Cairo. The study's findings showed that television played an important role in spreading awareness among children with respect to the environment and its problems. However, it played no role in creating pro-environment behaviour of children.

The findings also showed the importance of interpersonal communication in increasing children's environmental awareness. This may lead to the conclusion that the socialization process has a role to play in this respect.

A content analysis was performed on a sample of children's programmes screened on both the first and second channels of Egyptian television for five months (August–December 1982) (El Abd, 1988). The content analysis was followed by a field study on a sample of children from primary schools in urban and rural areas.

The findings showed that the most common subjects in these programmes were science (18.4%), art (13.4%) and translated foreign subjects (10.9%). Social, economic, military and psychological subjects were less frequent. Personalities in children's programmes were mainly male, and information on females was rare. These personalities were mainly artists (21.9%), religious figures (17.2%), scientists (15.2%) and politicians (12.4%). Students and sportsmen appeared more rarely.

With respect to subjects on which information was presented, these were mainly men (15.5%), places (13.2%), animals (12%) and tools/equipment (10.2%). Information was general in 42% of programmes, on Egypt in 26.2%, on foreign countries in 25.3% and on other Arab countries in 6.5%.

Sources of information for children's programmes were mainly producers (72.1%), children themselves (17.4%) and finally interviewed guests (10.5%) from various domains, excluding politics.

With respect to illustrations in children's programmes, these included photographs (20.4%), documentaries (16%), models (8.6%), puppets (8.3%), animated films (4.8%) and hand drawings (4.4%). Illustrations such as written boards and maps were less frequent.

A study on the role of television drama in providing children with social values was conducted on a sample of children who had left education (340 children) (Asran, 1998). The study's findings showed that all respondents watched television (81.6% did it often, 30.9% sometimes and only 7.3% rarely). With respect to children's preferred programmes, drama came in first (30.3%), followed by cartoons (15.4%), advertisements (13.8%) and sports programmes (13%).

It was also found that entertainment and fun were the most mentioned motives for watching television drama. With respect to positive values that children learn from television drama, helping the needy (70.2%), being faithful to one's parents (20.2%) and sticking to religion (19%) were the most mentioned. Negative values included underestimation of the importance of education (13.9%), violence (12.4%) and favouritism (12.1%).

El Abd (1993) conducted a study on children's programmes on Omani television, which also included a sample of 500 children (males and females). All the interviewed children mentioned watching television. More than half (58%) said that they watched television after completing their homework, 20% before starting their homework and 6% while doing their homework.

With respect to preferred programmes, all children mentioned animated films and children's programmes, of which the most preferred were Arab series (99.4%), songs (98.6%) and Arab films (94.6%). Advertisements (92%), sports (79.8%), variety shows (79.6%) and religious programmes (75%) were also mentioned.

It was found that parents interfered in their children's exposure to television programmes in 32% of the cases. They prohibited their children mainly from watching some Arab films (81.3%), foreign programmes (68%), some Arab series and some sports programmes (31.3%), news (25%), and advertisements (6.3%).

Regarding children's evaluation of their programmes, most respondents (84%) mentioned being satisfied with their programmes and 16% saw them as acceptable. The majority (98%) mentioned that they learnt a great deal from local children's programmes. In addition to Omani television, the respondents watched other television channels such as Dubai, Abu Dhabi, the Egyptian Satellite Channel (ESC), MBC, Saudi and Jordanian television; again, their most preferred programmes were children's programmes (90.3%).

El Keleeny (1995) conducted a study on the negative aspects of new children's video games and the kind of children who visited video clubs, on 40 Egyptian children aged 12–15. The findings showed that there were certain kinds of traditional games that children were playing most of the time. It was also found that playing video games in video clubs could help to strengthen relationships among players. However, video games may cause many negative effects such as keeping the child away from social life, exposure to cultural content that varies from that of the society, and associating with people from different social classes, which may lead to bad habits such as smoking and drug use. Besides, most children who go to the video clubs belong to higher social classes, where parents are busy most of the time. This may lead to a situation in which these children are more influenced by these games with the absence of family control. There is also a correlation between visiting these clubs and poor performance in school, due to the waste of study time. Also, video games train children in violence and aggression and take them to a different world than their own real one.

The findings of a study on children's television programmes (El Abd, 1988) from 13 Arab countries (i.e., Egypt, Iraq, Jordan, Djibouti, the United Arab Emirates, South Yemen, Sudan, Mauritania, Bahrain, Syria, Somalia, Qatar and Saudi Arabia) showed that there were television programmes for children in all the above countries. Each country felt that its children's programmes were sufficient. Children took part in their own programmes in all countries except Djibouti. Children's programmes were screened as recorded programmes in all countries except Egypt, the United Arab Emirates and Sudan, which offered live programmes for children. Only five countries (Egypt, Syria, Iraq, Sudan and Qatar) conducted research on children's programmes.

It was also found that the sources of children's programme production were local (28.7%), foreign (23.8%), Gulf (21.4%) and Arab (19%). Programmes

imported from other countries were animated films (22.8%), children's series (19.4%), children's films (14%), puppet shows (14%), children's songs (12.3%), circus programmes and acrobat shows (10.5%) and full packages of children's programmes (7%). Most countries participated in international festivals and contests for children's programmes, with the exception of South Yemen, Mauritania, Djibouti and Somalia. The study also found that in all countries except Iraq children's programmes had certain problems, which might be due to the lack of financial support and qualified people, as well as the overuse of foreign programmes. Some countries (Egypt, Iraq, Jordan, the United Arab Emirates, Bahrain and Qatar) had local production, which was run by the respective countries' governments. Only two countries (Egypt and Jordan) allowed for private production.

In a study on the planning and production of children's programmes on the United Arab Emirates television (El Aly, 1992), it was found that 70% of the interviewees mentioned that the appearance of children was important in their own programmes. The findings also showed that presenters of these programmes should be local, male and female, and that programmes should also be presented through four artistic types: songs (100%), animated pictures (70%), stories (30%) and direct talk (30%).

A Saudi study was conducted on Saudi children's use of video, on a sample of 163 mothers (Zeenada & Beet El Mal, 1991). The findings showed that 31% of children used video heavily (5–7 times a week), mainly late in the evening and during the afternoon. Children preferred cartoons (54.6%), commercials (28.8%), translated films (28.2%) and adventure (16%).

More than one-third of the interviewed mothers (38%) mentioned using video as a tool in punishing their children: if children misbehaved, they were not allowed to use the video. Children were also not allowed to use video in their own rooms. A percentage of 63.8% of the mothers mentioned buying videotapes for their children upon their request. The study concluded that the use of video had three main effects on children: social, cognitive and behavioural.

Another study on children's programmes (El Mishmishy, 1993) on Saudi television included a content analysis of children's programmes on the first Saudi TV channel and interviews with the planners and producers of these programmes. The findings showed that television did not distinguish among different age groups, and that programmes were screened to children in general and were not very attractive to them.

Programmes were mainly local (73.2%). They were promotional (31.6%), educational (16.1%), social (9.3%) and religious (2.7%). Surprisingly, religious programmes were the least screened programmes.

A percentage of 64.3% of the interviewed planners and producers mentioned that they worked on a part-time basis, with 42.9% not having any type of training and 28.6% not being university graduates. They also mentioned experiencing a great deal of difficulty in conducting their work, due to a lack of technicians and qualified supporting staff.

A study was conducted on the role of television in increasing Egyptian children's health awareness (Jaffar, 1998). The study's sample was 240 children, and relied on the experimental approach. It was found that there was a great difference between those who watched television and those who did not, with respect to their information on health affairs. Television was ahead of print media with respect to its capacity to increase children's knowledge about health matters. It was also found that children from the middle class had more information on health matters than those from the working class. Females had more information than males did.

Lotfy (1992) found, in a study on the influence of television advertising and Arab serials on the Egyptian child, that children were to a great extent negatively affected by television. The study was carried out on sample of 627 commercials, 400 children (10 to 12 years), and a sample of parents.

The study found that television was to be blamed for spreading certain bad behaviour among children. Parents said that their children exaggerated about the amount of time they spent watching television. Children from the middle class were more under parental control than those from the working class. Children, by contrast, mentioned that their parents controlled their exposure to television.

It was also found that children were encouraged by television commercials to buy things they did not need.

The child's appearance in television commercials was the topic of a study conducted on a sample of 1284 commercials, 33 programmes, planners and directors, a sample of 100 children and a sample of experts and psychologists (Jaffar, 1991).

It was found that programme directors used both males and females in their programmes (62%), as the target audiences for their products and services were both boys and girls. Programme planners and directors also mentioned that they preferred using older children (6–12 years), and 56% of commercials used children in this age category. 92% of commercials relied on children from urban areas, and 86.7% of programme directors used this type of children.

Children and the print media

This section reviews the findings of studies related to children and the print media.

El Abd (1988) conducted a study on children's print materials in 13 Arab countries, i.e., Egypt, the United Arab Emirates, Saudi Arabia, Iraq, Djibouti, Jordan, Bahrain, Syria, South Yemen, Sudan, Mauritania, Somalia and Palestine. The data were collected through a questionnaire sent to those in charge of children's print media during the months of July, August and September 1988. The study's findings showed that special materials for children existed in only nine of the countries.

Two of the above countries (Egypt and the United Arab Emirates) offered regular daily material for children in the print media. Eight countries (Egypt, the United Arab Emirates, Saudi Arabia, Iraq, Jordan, Bahrain, Sudan and Somalia) offered regular weekly materials. One country (Syria) offered material for children once a fortnight, while another (Iraq) offered monthly material for children.

With respect to the kind of children's material, the most mentioned were general information (100%), stories (100%), hobbies (88.9%), entertainment (88.9%) and news (44.4%). It was found that the children's participation took on two forms: as correspondents in their schools or as taking part in editing their own material by submitting information for publishing.

Regarding children's newspapers and magazines, it was found that they existed in ten countries: Egypt, the United Arab Emirates, Saudi Arabia, Iraq, Jordan, Bahrain, Syria, Southern Yemen, Sudan and Palestine. Newspapers were issued by either ordinary news organizations or special organizations for children. It was also found that publishing houses relied on specialists from outside (freelancers) to edit and prepare children's magazines. A percentage of 42.9 of the magazines were printed in colour, 42.9% combined colour and black and white, and 14.2% were printed only in black and white.

El Laban (1995) conducted a content analysis study on an Egyptian weekly magazine for children (*Aladdin Magazine*) for two years (1993–94). The study was aimed at examining the physical and psychological dangers of the use of colour in children's magazines. It was shown that the studied magazine was very successful with respect to the quality of glossy paper and colour used. The use of glossy paper might lead to the reflection of a great deal of light while reading, causing fatigue to the child's eyes and increase in children who are not used to reading for long periods of time. The magazine used high quality printing ink that did not rub off on children's fingers while reading. The study's findings also showed that the magazine was successful in the use of illustration, especially simple drawings appearing on white backgrounds, which enhanced visibility. The magazine used psychological and religious appeals to attract children.

Children's magazines were the topic of another study (Amer, 1993), conducted on *Samir Magazine*). Materials from the magazine were analyzed from June 1989 until December 1991. The sample included 394 scientific topics published in 135 issues.

The main translated topics were related to industrial technology, space and planets, science, astronomy and international scientific news stories. Science-fiction stories formed a large share of the scientific content of the magazine. Materials related to contests on scientific topics were also published frequently. Stories related to computers and robots were also widely covered.

With respect to the format and presentation of scientific materials, *Samir Magazine* used simple scientific terms to transfer meaning quickly and relied on coloured pictures and drawings to simplify things. The findings also showed that the magazine did not provide children with any information on Arab scientific life, ancient or modern. Finally, it was concluded that the magazine lacked a qualified professional scientific editor able to blend news and science.

In line with the above study, Mabad (1995) conducted a study on trends in the fictional stories directed at the Egyptian child on a sample of three monthly children's magazines specializing in science fiction, i.e. *Nova*, *The Future File* and *Seef El Adalah*. These were the most important magazines specializing in this area. A content analysis was performed on the materials published in the magazines in 1994. It was found that the above magazines imitated Western magazines to a great extent, and that their format was identical to that of American magazines with respect to the handbook size, cheap paper and low price. They always started with a short introductory editorial and contained short stories accompanied by pictures and drawings, often taken from foreign magazines.

The trend to remove the human race and replace it with another was the most mentioned one (79.5%) in the studied magazines. The control of machines and computers on human beings (19.6%) and the trend to occupy other planets (10.6%) were also popular. Using space for spying and travelling to other planets were less frequently mentioned.

Findings from a study (Kamel, 1995) on translated magazines (*Mickey*) showed that a great deal of material came in the form of drawings. Critics express a great deal of reservation regarding this kind of drawing, as it may kill children's ability to create and imagine. Findings also showed that children were less interested in reading short stories in magazines, and this showed that magazines did not present a good press service to the children. Pictures and drawings did not present everything a child needs. The magazine's content was very weak and superficial, and far from the Egyptian cultural, social, economic and political realities. It also lacked religious, historical, sports and artistic content. It neither paid any attention to the child, nor offered any sign of help for

solving his/her problems. It also did not motivate the child or provide any help in developing the child's ability to create or invent. In all, the magazine did not satisfy the needs of the Egyptian child.

Kaheel (1995) conducted a study on the influence of magazine advertisements on children in *Aladdin Magazine*, i.e. the most popular children's magazine in Egypt. All advertisements published in the magazine during the sample period (August–December 1993) were analyzed. The study's findings showed that most advertisements were for children's toys, clothes and other articles, which were not essential to children. It was also found that there was a contradiction between drawings and pictures in the studied advertisements and the values of Egyptian society. The same contradiction was found between the values portrayed in the advertisements and values spread among children in society. This may lead to unwanted consuming habits and the spread of negative values in children.

Another study was conducted to examine children attitudes and interests regarding content in children's magazines, on a sample of 600 children aged 8–12 years; 450 from Cairo (urban areas) and 150 from rural areas (El Hadeedy et al., 1989). The study's findings showed that more than half the interviewed children (58.3%) read magazines. Reading magazines was more frequent among children from urban areas (70.1%) than among those from rural areas (20%). With respect to reasons for not reading magazines, it was found that lack of access to magazines, lack of time and not liking the content of children's magazines were the main reasons. Children also felt that there was a real need to increase the space devoted to stories in children's magazines, as this was their most preferred material.

It was also found that children had a need for a new magazine to meet their needs, and that it should be a weekend magazine. This showed the importance of timing in children's magazines.

What children expect from a new children's magazine is fun and entertainment. It should not be seen as educational or scientific media, but should entertain rather than teach. The price of any new magazine should be reasonable.

Children's use of their magazines was the topic of another study (El Hadeedy, 1997), which aimed at examining the motivation for using children's magazines. The study was carried out on a purposive sample of 405 Egyptian children aged 9 to 12 years. It found that children read 14 magazines, the most mentioned being *Alaa El Din* in first place (22%), followed by *Mickey* (17.1%) and *Majed* (11.1%). With respect to access to children's magazines, they were bought by a family member (29.2%) or by children themselves with pocket money (26.1%). Magazines were also borrowed from friends.

Nearly half the interviewed children (44%) read alone, 22.2% with friends, 21.9% with family members, and 11.6% with a teacher. Preferred material included comedy, games, competitions, entertainment and general information. Factorial analysis showed that children read magazines for five reasons: information, entertainment, interaction, social communication and tales.

Children and radio

On the following pages, findings from studies on children and radio will be discussed. The number of these studies was very limited.

Reda (1990) conducted a study on a sample of 200 children aged 10–12 years, selected from schools in rural and urban areas. The main objective of the study was to examine children's programmes on local radio stations and their influence on the formation of children's concepts and values. The sampled local station was the Wasat el Delta radio station. Religion, nature and belonging were three important concepts introduced in 72% of children's programmes on the station. "The religion concept" came in first place (24%), followed by "the nature concept" (22%). The "belonging concept" came in third (18%).

Children mentioned liking the programmes aired on the station because they presented useful information (68%), music and songs (55%), and stories and tales (53%). The study recommended that the time devoted to children's programmes be increased and more attention be given to the needs of children in rural areas.

El Abd (1988) conducted a study on children's programmes on radio in 13 Arab countries. The study found that there were special radio programmes for children in all countries except Djibouti. With respect to the number of daily children's programmes, five Arab countries (Northern Yemen, Southern Yemen, Mauritania, Bahrain and Jordan) broadcast only one programme, Syria – two programmes and Somalia – three. Egypt and Iraq had more than 12 daily programmes for children, while other countries had a range of five to six daily.

Aims of children's programmes included developing children's skills of thinking and information seeking, increasing their national spirit, entertaining and creating the child's own world and linking them to the real world.

According to producers of children's programmes, their number was sufficient only in Egypt and Iraq. Children participated in some programmes in most countries (83.3%), with the exception of Qatar and Syria. The findings also showed that planning was done for children's programmes in six countries, i.e. Egypt, Sudan, Bahrain, the United Arab Emirates, Iraq and Qatar. Planning relied on some principles such as the state's general plans, providing the child with the right values and information, satisfying the child's needs, connecting the

Arab child with children in other parts of the world and suitability of programmes for different age groups. The programmes should also match current events, the child's cultural environment and the different seasons of the year.

In most countries, regular evaluation was performed on children's programmes. Budgets for children's programmes were not sufficient in Egypt, Sudan, Northern Yemen, Southern Yemen, Jordan, Somalia and Mauritania, but were adequate in Iraq, Qatar and the United Arab Emirates.

Sources of materials for children's programmes were national production (54.5%) and joint Arab production (45.5%). Control over children's programmes was found in all countries except Bahrain. The main problems which faced the production of children's programmes included lack of financial resources, lack of qualified staff and low participation of children.

Conclusion and recommendations

If the rise of mass media goes back to the beginning of the 20th century, the study of children and media is more recent. Works in the field of children and mass media rely on the contribution of scholars from different fields, i.e. mass communication, psychology, social psychology and sociology. Due to the importance of mass media and its strong relationship with human beings, scholars in the fields of education and mass media are more interested than others in studying the influence of mass media on the child.

The child's very limited experience in life leads to his quick response to stimuli without critical thinking. Critics divide among themselves with respect to the influence of mass media on the child. While some see that mass media have positive effects on the child, others emphasize their negative impact.

The above review shows that the number of studies conducted during the 1990s, especially the mid-1990s, was great compared to 1980s or 1970s. This may be due to the great amount of attention the governments in Arab countries have started to give children. A large number of children organizations have been established under the supervision of governmental and non-governmental organizations. Academic and scientific centres for the study of children have also been established across the Arab world. There has also been a pan-Arab interest in the child, reflected in the establishment of the Arab Institute for Childhood Studies in Cairo within the Arab League. In Egypt, for example, there was a presidential decree to consider the decade 1989–1999 the childhood decade, and during that time a great deal was done at official and private levels to improve the quality of the services provided to the Egyptian child. This may also explain the great care taken to study children during this decade.

Most of the reviewed studies were related to children and television, i.e. types of children's programmes on television and children's exposure to these programmes. While some of these studies mainly analyzed the programmes, others were concerned with children's exposure to them, their preferences and the influence of the programmes on the children. Some of the studies were also related to communicators (programme planners, producers and directors). Finally, a few examined parents and the extent to which they influence their children's use of television. Studies on children and media in general, print media, radio and other media such as video were less frequent.

Social status and geographic area factors were shown to have a great influence on children's use of mass media. Those from the upper and middle classes have access to most media, whereas television is the most used medium for children from a working-class background. The difference is also clarified in preferences: middle-class children prefer variety shows and musical programmes, whereas working-class children prefer traditional and religious programmes and material. Middle-class children also use magazines and other print media more than working-class children do. Children in urban areas have access to more media than children in rural areas, who stick mainly to television.

No attention was given to the problem of poorly educated and homeless children. Official organizations continue to address children's problems, but nothing is ever mentioned about the role media may play in solving this issue. This problem is very common in all Arab countries, but unfortunately very little is done about it.

Arab children are different from those in other countries, especially Western societies, with respect to their dealing with the media, especially television. In most families from different social milieus, children are left to watch television without any control or interference from the family. The danger in this situation increases with the introduction and spread of satellite television. In most Arab countries, children know more about satellite programmes than do other family members, and they use these channels more often.

According to the studies discussed above, television is the dominant medium and most children watch television for different forms of gratification, especially entertainment and fun. Cinema is also one of the most important media for children. The importance of films is special in the Arab world because of the spread of illiteracy, which makes children more prepared to respond to films and motion pictures.

Writers and specialists agree on what is meant by films for children, distinguishing between different kinds of films as follows (Shokry, 1995, pp. 9-15):

- Films in which children are the principal personalities, or whose main theme is the child.
- Films that parents feel suit the requirements of their children.
- Sports films.
- Animated films that give life and action to inanimate objects such as drawings, puppets and cartoons, which rely on the persistence of vision (Davies et al., 1975). This kind of film creates a magic universe for children who live in the world of Tom and Jerry, Mickey Mouse, Donald Duck and Pluto.
- Documentary films, which children may see in the classroom.
- Educational and cultural films.
- Special films for children.

The use of newspapers is affected by the age factor: older children (10 years and above) use newspapers more than younger children do. The same applies to magazines. Children's use of print media is also affected by the socioeconomic status of the family. Children in middle-class families are more likely to use print media than working-class children, who lack sufficient financial resources.

Timing of children's magazines and prices are also crucial. Publication should be near the weekend. Most children see magazines as entertaining rather than educational. Therefore, they prefer to read magazines during their days off from school. This point should also be reflected in content, which must be light to satisfy children's needs and expectations.

It is obvious from the literature that there is a problem with respect to specialized writers for children in the print media. They are very few, and most are not up to standard. This applies to those whose materials cover the very limited space devoted to children in newspapers, and may also apply to magazines or even children's magazines.

The situation is different in radio and television, where children's programmes presenters are relatively more experienced. This matter could be seen clearly on Egyptian radio and television. Egyptian television screens a wide variety of programmes for children and for different age groups, and the rate of viewing by the target young audience is high. The rate of listening to children's programmes on the radio is also high among the target audiences.

Lack of financial resources is a major problem for children's media in most Arab countries, with the exception of the Gulf countries. Budgets allocated to children's programmes for radio or television are far lower than those allocated

to other kinds of programmes. The same applies to the situation of children's films, which suffer from a lack of financial and other resources. It is also difficult in most cases to produce children's films in which children play principal roles.

Another problem includes the lack of specialists and staff in the field of production and presentation. At the same time, those who work in the field of children's programmes are paid less than others. This leads to a situation in which people who produce children's material and programmes are viewed as less qualified than those who produce other programmes. This is common in most Arab countries.

Although a great deal of research on children and media has been conducted, we still have the same problems shown in the findings of most studies. These mainly concerned two issues:

- Do children expose themselves to these programmes and this material, or are they wasted?
- Do we, as parents, have the right to select radio and television programmes and print materials for our children?

These are the kinds of questions that need to be addressed by future research. It is very common for many Arab television companies to screen programmes at inappropriate times, for example while children are at school, and this leads to the children not watching them.

The review of literature and analysis of findings shows that researchers in the Arab world have given more attention to television than all other media. This may be due to the fact that television has been more influential on children. Studies on children and radio were very few. Studies on children's use of other media such as cassette recorders were completely absent, although the use of a portable cassette recorder has become very popular across the Arab countries, especially among older children. Studies on use of video and video games were also rare. We believe that further research needs to be conducted on these areas. There is also a need to study children's use of modern media such as mp3-players, chat rooms and mobile phones.

The above review of findings has also shown that there is a real need for media education. Most studies have shown that mass media have a strong negative influence on children. These children need to be educated on how to deal with mass media. Families, especially mothers, also need to be advised on how to help their children deal with mass media.

During 1980s, a number of departments were established at some Arab universities to qualify teachers for "educational media", but not "media education". In other words, these departments were concerned mainly with the media used at schools generally or in the educational process.

At the same time, since the early 1990s, in most Arab countries schools have been required by law to have "Multi-Media Laboratories". These are mainly computer laboratories, and most have access to the Internet. They are intended for use by children at schools for the sake of the educational process. These laboratories are more used in private rather than governmental schools. Children use them mainly to go online and work on their school projects. Media education at schools has been narrowed to the level of media use in the educational process.

Before 2002, there were no real workshops or conferences on media education. The first workshops were organized by UNESCO in Cairo and Tunisia in 2002.

As of today, the situation of media education has witnessed slight progress, which can be seen in the number of studies (especially PhD studies) being conducted on media education. This trend is very recent.

In sum, there is thus an urgent need for some kind of coordination between different organizations such as educational and mass media stakeholders to conduct joint research and work together. This will help, to a great extent, to improve the conditions of children's use of media. We also believe that there is a real need to conduct cross-cultural studies that can compare, for instance, the situation of children's use of media in the Arab world with that in other countries.

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Cultural Competence as a Target Factor of Information Literacy

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Information society building is accompanied by a number of major socio-ontological changes. Electronic communication influences the transformation of the architecture of relations between various strata, while new forms of social intercourse and a new "information" style of social behavior are formed, namely knowledge societies (also called intellectualized societies) and online communities. Social being acquires new values and new motivators. In today's world, knowledge is becoming the highest value and the level of mastering knowledge is the determining factor of social differentiation.

An equally important ontological feature of the digital world is the expansion of opportunities for self-identification not only within the immediate environment, but also at a global level. We are witnessing the start of building a virtual community, a so-called "new network nation" to serve as a basis for the global cyberworld to come.

Nevertheless, according to some social philosophers (Hans-Peter Martin, Harald Schumann, Ziauddin Sardar, Umberto Eco, Sohail Inayatullah, Vladislav Inozemtsev, etc.) the web space raises certain perils. The information society is ambivalent by its nature, combining strong humanistic potential with vices of the industrial consumer-oriented age. Spontaneous development of such a society may lead to social deculturalization and even personal potential decrease, since there is a real threat of destruction of traditional personal fulfillment mechanisms.

Many scientists, including anthropologists, neurophysiologist, psychologists are seriously concerned about the current changes in intellectual and social activities of people in the modern virtual world. While accelerating the processes of information production, processing and transmission, communication technologies seem to bring a negative impact on the hermeneutics of the human mind. They push careful, thoughtful reflection and personal knowledge development out of our cognitive space, reduce the ability to think logically, and form the so-called clip thinking.

In addition, hyper information drains people's spiritual potential, their individual and social cognition, and the phenomenon of the "culture of real

virtuality" often transforms the perspective and vision of the world. George Berkeley's words "To be is to be perceived" do not seem metaphysical any more. Today they reflect the essence of cyberspace: if you are not there, you do not exist. As digital media propose us an opportunity to modify our own vision of the world, the borderline between the real life and the virtual model gets blurred. We can not only complement, but also retouch, dispose the fragments that we do not like and add new ones, carrying out cyber transformations. And thus the questions arise: what will be the values and ethical norms of a virtual society? Will individuals be able to resist the attempts of manipulating their consciousness in the media environment?

Another topical issue of the modern information space, which is predominantly English-speaking, is preservation of manifold communication practices, based on the ontological features of the western and eastern civilization development models, which differ fundamentally in many aspects.

The biggest threat, however, is connected with the fetishization of information technology that often reduces the multiplicity of human activities to a set of functional operations to the detriment of the system of values and goals.

What seems to be an advantage of the information society can have serious deficiencies.

It is possible to reduce the negative impact of the above factors on the world civilization development process only if maximum attention is paid to the issues of information culture of individuals and societies as a crucial component of their cultural competence. We should think of finding new ways of living and acting in knowledge societies.

From this point, developing media and information literacy includes not only teaching an individual of technologies and skills for searching, selecting, organizing, and analyzing the information he needs, but also expanding one's knowledge of the structure and content of various modern communication practices. In this case, the focus is on fostering certain personal qualities and skills to allow individuals to adequately "embed" in the space of news and media without making a fetish of it, and without damage to the value system.

Information and media literacy are essential requirements and tools for developing cultural competence of individuals and society as a whole. Cultural competency – a comprehensive systemic concept combining philosophical, sociological, cultural and psychological aspects – serves as a major marker of the civilizational progress stages. In epistemological terms, cultural competence, in our opinion, can be defined as the degree of one's socialization, inculturation and professionalization in relevant social environment.

Personal cultural competence, in the most general terms, is characterised by:

- the knowledge of philosophical and cultural framework, values and traditions of the society;
- the knowledge of laws, rules, regulations, customs, symbols typical for the community;
- acquisition of certain general and specific (professional) knowledge and skills, ability to interpret and use them in different ways;
- the knowledge of verbal and non-verbal social communication channels, including digital media environment;
- the knowledge of modern information technology for both everyday life, and professional activities.

Cultural competence, in its turn, ensures individuals' social adequacy to modern realities, which includes the following key components:

- knowing institutional forms of social organization, i.e. political, economic, legal, scientific, educational, informational, cultural frameworks, etc.;
- knowing conventional tools of social and cultural regulation, following the traditions and values, morals and norms of etiquette accepted in this society;
- mastering the "languages" of social communication, both colloquial and professional, and adopting social symbols and attributes;
- ability to solve specific information tasks, in particular by using computer and network technologies.

Personal cultural competence always has a historical background. Up to the industrial era one's cultural competence was determined by national, social, political, ideological, religious and other frameworks of the society. In knowledge societies, however, those factors are not that crucial. In the modern world the level of cultural competence and, therefore, social adaptability of an individual is largely dependent on education, qualification, creativity, acquired skills, including communication ones, and – most notably – information activity. In addition, such traditional markers of identity as social origin, nationality, race, religion, are losing importance, and are regarded more and more often as private, minor characteristics.

One more peculiarity of personal cultural competence in the contemporary society should be mentioned. The knowledge of classical examples of humanistic culture is not its major component any longer. This knowledge is also gradually moving into the area of personal erudition. What matters

today is communicative mobility and willingness to work in a rapidly changing technological and information environment. In today's media reality only a high level of cultural competence grants the ability to protect oneself from manipulations, to avoid false, inaccurate knowledge, to create the prerequisites for evaluating new knowledge and interpreting it from the point of personal tasks and for one's own benefit.

Thus, in our view, an individual's successful socialization, inculturation and professionalization in the modern world depend not only on the level of media and information literacy. One should master skills and technologies of navigation, search, analysis, selection and processing of large data arrays for solving numerous functional tasks. The most essential of these tasks are: instrumental (acquiring information and new knowledge for scientific, management, creative, production and other purposes), education (acquiring information and knowledge for general and professional education, advanced training, professional development and self-education), entertainment (focused on leisure, emotional experience, which is also very important for harmonious personal development).

These functional tasks, in our opinion, should be the reference points of a modern and productive approach to developing media and information literacy of a particular individual and, therefore, his cultural competence.

In this case, the level of personal cultural competence (and, consequently, the degree of social adequacy to the modern era of digital technology) should be regarded as the target indicator not only for media and information literacy, but for one's information culture. It, in turn, will show the impact of our work on the creation of a new man, man of future, able to use his cognitive, communication, emotional and psychological skills for creative activities in knowledge societies.

MIL in Knowledge Societies: Mainstreaming, Application and Advocacy

A Futures Perspective on Media and Information Literacy

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Introduction

MIL is a relatively new term which seeks to describe the knowledge, values and skills in the use of media and information that are needed for people in the 21st century to participate in civil society and in the knowledge economy. Jesus Lau and Alice Lee (Catts, Lau, Lee, & Chang, 2012) have summarised UNESCO activities that have set the stage for this conference to discuss media and information literacy (MIL). It is important that we recognise the antecedents of the MIL concept. Of equal importance are three disciplines. One is Library and Information Science and especially the notion of information literacy. A second discipline of equal significance is Media Studies and Journalism and especially the concept of media literacy, and a third discipline that overlaps and to some extent underpins the others is Information and Communication Technologies (ICT).

If your professional background is in one of these three disciplinary areas and if you think that MIL is simply a composite of these three disciplines then you will probably conclude that all that is required to progress your grasp of MIL is to gather a sufficient grasp of the other two disciplines. You may be tempted to appropriate the ideas from the other disciplines that you find useful into your own discipline base, and in your mind maintain the conception that your discipline is one that incorporates the others. I have heard media specialists explain to me how information literacy is a small part of the overall notion of media studies. Equally I have read claims by information literacy specialists that media studies represents just one aspect of their discipline. To add to this mix, there are academics who specialise in communication studies who claim that their discipline subsumes both information science and media studies. I argue in this paper that this is an inappropriate approach to MIL and that we need to integrate the constructs, not to contest for ownership of MIL.

Lau and Lee argue that recent technological changes mean that merging technologies are resulting in the merging of media and information production

and use (Catts, Lau, Lee, & Chang, 2012). The implication is that MIL is not a sum of its antecedent parts, but rather a new adult competency in which components of the antecedent disciplines are necessarily integrated into a new construct that is larger and more far reaching. Most of us at this conference come with years of research and practice in either information science or media studies. These disciplines have different values and cultures. For example, information literacy emphasises ethical use of information; whereas journalism requires protection of sources but leaking of private information for public good.

UNESCO has a mandate to facilitate the attainment of human rights in all 195 member states and 8 subscribing states and this involves working with the most diverse forms of cultural capital, extraordinary differences in wealth, levels of education, and access to resources. To contribute to the development of MIL in all Member States UNESCO has I suggest to be forward looking, while also respecting heritage and political systems. MIL is a response to the emerging knowledge society and to make this concept accessible and of use in policy and in practice in each Member State I suggest UNESCO needs to examine developments in European and other developed nations, and to assume that other countries will strive to emulate these conditions. Hence the focus in discussing MIL is on information and communication using electronic platforms. This is not to deny the importance of print and the value of oral traditions.

However MIL addresses the implications of merging technologies, and of moves toward universal literacy, and toward wider access to higher education, and to the consequential changes in civil society. In some societies most forms of information are accessed primarily using electronic platforms. For instance in many developed countries newspaper circulation is in decline and e-journals are replacing print. Electronic platforms impact on what is accessible and how information is conveyed. For instance Twitter is accessible to all and is seen by many as a new way in which individuals can interact with mass media. However Twitter limits the number of characters in a message. The twitter web site[1] *claims that it is "a real-time information network that connects you to the latest stories, ideas, opinions and news about what you find interesting.* (You) *simply find the accounts you find most compelling and follow the conversations*". It is claimed that at *"the heart of Twitter are small bursts of information called Tweets".* The web site claims: "*each Tweet is 140 characters long, but don't let the small size fool you—you can discover a lot in a little space*". While that may well be true, there is equally a lot of important knowledge and understanding about the world in which we live that cannot be reduced to 140 characters, and because this information is missing Twitter can restrict our understandings if it is used to the exclusion of other sources of media and information.

[1] https://twitter.com/about.

In academic circles, publisher data bases require people to pay to access material. In response there is a growing 'Open Access' campaign which is striving to maintain the principle of free access to scientific knowledge through the Open Access pledge[2]. While scientific journals aim to provide complex and evidence based knowledge, access to this knowledge is often restricted to staff in universities or in other institutions where there is a corporate will to seek access to scientific knowledge. Most individuals in society are excluded from these sources of information by the private ownership of the media.

Autonomous learners and MIL

One of the claims made about MIL is that it is essential for people to function as autonomous learners who can exercise their human right to freedom of expression as expressed in Article 19 of the Declaration of Human Rights (UNESCO, 2010). In developed societies universal secondary education and mass higher education has led to increasing numbers of people who act autonomously in at least some situations. This in turn has led to a 'do it yourself' (DIY) society in which many people book their own flights, research their own medical conditions, and broadcast their own knowledge. However people do not act as autonomous learners in every situation.

Cognitive scientists have explored how people use information to form their knowledge on which to base their actions. The authors who led the way in this area of research are Perry (1981) and Belenky et al. (1986). Perry asked white middle class male college students, about how they use information. Belenky asked women from a wide cross section of society and used illustrations from how they gathered and used information on breast feeding to illustrate their analysis. While the later study extended our grasp of the knowledge processes people use, both studies identified at least four levels of knowledge. These are:

- Received knowledge,
- Multiple knowledge,
- Categorised knowledge, and
- Constructed knowledge.

Received knowledge comes from a respected or authoritative source without question. For instance as Belenky et al. (1986, 41) suggest a woman may decide whether or not to breast feed her baby on the basis of the knowledge she receives from a trusted source. Typically those who operate at the level of received knowledge block out competing ideas and other sources of information. The same may be true of some people who hold a fundamentalist view of religion, or give unwavering support to a political party or ideology.

[2] The Open Access Pledge: http://www.openaccesspledge.com/.

People who operate at the level of multiple sources of knowledge recognise that there is more than one opinion, but lack the skill or attitudes to differentiate between the competing claims. Typically they accept the view last heard. A nursing mother may therefore acknowledge the competing views of her mother, her doctor and her peers, and accept the last source of information she receives. As the view of a doctor is rarely the last heard, it is normally the peers (or sometimes the view of her mother) that determines her decision on breast feeding. She may then have a dilemma when next she sees her doctor, and may well explain to the doctor that her baby did not take well to the breast. People in this situation can become distressed because they are unable to deal with competing sources of information which are in conflict. Another example that illustrates the multiple knowledge level is a student who dutifully reports a range of academic sources on a topic but fails to draw any conclusion. These essays are notable for the description of the view of one academic writer after another with no discrimination or conclusion.

Most students achieve at least the next level which is termed Categorised knowledge. In this case the learners can break information into categories and make a choice between the options. In the case of the nursing mother, the various views of her peers, doctor, mother and of other sources of information about breast feeding are categorised and a decision is made, even if only on the basis of counting up the numbers for each view. However, a more sophisticated approach may give weight to some sources over others. Here we see a use of information to create knowledge which some would recognise as reflecting aspects of information literacy.

Finally there is the level of Constructed knowledge in which the learner creates a solution appropriate to a specific context. A nursing mother will include consideration of her own health, the condition of her breasts, the needs of her specific baby, the conditions and locations where she can feed her child, and the arguments advanced by all available sources of information. If her decision is to feed from her breasts she may well consult various forms of media to learn best how to manage her breast feeding. In an academic climate, we expect of our students some level of creation of new knowledge with increasing sophistication required at the post-graduate level.

No one uses the constructed knowledge level for every decision they take. There simply is not time to acquire sufficient information to do so on all occasions. For instance, I rely on received knowledge from my mechanic when I decide to have repairs made to my vehicle. I have changed mechanics when I have learnt that the received knowledge was inadequate, but that was long after the event. To paraphrase and appropriate a famous quote from Winston Churchill,

- Some people operate with received knowledge all of the time;
- Some people operate at different levels of knowledge some of the time;
- No-one operates with constructed knowledge all of the time.

The question for MIL policy from this brief foray into the realm of cognitive science is what we mean when we say that MIL is essential for people to achieve the goal of lifelong autonomous learners.

Lessons from a review of IL Indicators research

I have previously developed a self-report scale for use to diagnose the information literacy capacities of university students (Catts, 2003; 2005). In developing this diagnostic tool and demonstrating content validity and reliability of the scale, it became evident that the information literacy standard on which it was based contained ambiguities and overlapping concepts. At the same time librarians seeking to utilise the same standards to deliver information literacy courses found similar difficulties with the existing standards. For example, in the 1st Edition of the Australian and New Zealand Information Literacy Standards storing information was in element 4 of the standards along with recording and organising information; but in practice it was found belonged in element 6 along with copyright and dissemination. Likewise values and attitudes toward use of information became an umbrella statement in the 2nd edition because it pervaded all elements of practice, and was discarded as a separate element of the standard.

These findings led to a review of the standards and to the subsequent publication of the ANZIL Information Literacy Framework which included revised IL standards within a broader context of theory, together with pedagogical guidelines, and guidance on assessment and evaluation (Bundy, 2004). The MIL standards published by UNESCO in 2010 have already been found by both pedagogues and by measurement specialists to likewise contain ambiguities and possibly some missing elements. Therefore a review of the draft MIL standards is urgent for us to progress both our understanding of MIL and the use of MIL to inform policy and educational practice. Indicators are only as good as the standards on which they are based.

Types of indicators of MIL

The choice of how to obtain indicators of MIL depends upon a number of considerations including the purposes to which the indicators will be put, and the number of audiences for such information which might include policy makers, teachers, parents, students and the general public. In addition, the cost of obtaining the information needs to be weighed against its potential utility for each audience.

The types of indicators used in other domains of professional practice include indirect evidence, observation of individuals, self-reports of practice, performance testing, and tests of knowledge about the subject matter. There are also examples where data collected for one purpose can be reanalysed to provide information about another construct. This is termed secondary analysis.

An example of the use of two of these sources of indicators of competence is the test to obtain a licence to drive a car. In the UK one must undertake a performance test under a close observation of a trained assessor, and also complete a multiple choice quiz to demonstrate knowledge of the rules of the road. The observation requires a one on one assessment that can take up to one hour, while the test of knowledge can be undertaken by many people at the same time if there are sufficient computer terminals with access to the relevant pool of items.

Indirect indicators of MIL

Examples of indirect evidence of MIL include:

- level of Education;
- secondary analysis of other indicators.

Indirect evidence may be useful if it can be established that there is both a correlation with MIL indicators, and that there is an explanation for the correlation which reflects the underlying nature of MIL, and not some spurious association. To explain the notion of a spurious association, it was at least in the past the case that the size of one's foot was correlated with mathematical attainment. The reason for this relationship was that in school many more boys took higher mathematics than girls. Hence, there was an association but not because people with big feet could count their toes better. Hence there is always a risk that indirect evidence is invalid, and even if there is a direct link between the indirect indicator and MIL, it is likely to be insensitive to the effects of MIL policy changes. This is especially the case with the use of Level of Education as an indicator of MIL. Were an education system to implement an effective cross-curriculum MIL strategy in the elementary school this would make no difference to the estimate of MIL, whereas in practice there could be a substantial change in the level of MIL among primary school children.

When 'level of education' is used as an indirect indicator in research, people are classified on an ordinal scale in terms of the level of education which they have completed. Typically the scale includes the following categories:

- Tertiary education,
- Vocational Education,

- Completed Secondary education,
- Part secondary education,
- Completed primary schooling,
- Part primary schooling,
- No formal education.

There are several issues with the use of this scale. The first question to ask is how accurate the information is that is available, even from official records (Gorard, 2001). Next one needs to ask whether this scale can be considered to be an ordinal scale and hence meaningful to indicate amount of education, let alone level of MIL. For instance what is the relative value of completing secondary schooling and completing a short vocational course? The next question is to ask how much variability is there in attainment within each level. For instance, how different are information skills achieved in a short vocational course compared to an advanced vocational diploma? One could also ask to what extent is MIL included in different courses at the same level. For instance compare the Bachelor of Teaching taught with a MIL focus and another with no overt MIL assessment. Compare also the level of MIL attainment one would expect of a graduate in media studies or library science with that of a person graduating in physics. It may seem obvious when this explanation is provided that level of schooling will not serve as a useful indicator of MIL, but the point has to be emphasised because the option of using an indirect indicator of MIL will have appeal to some policy makers because it will cost nothing to implement. If such indicators are to be used for the purpose of comparisons either within or between countries there is a risk of bias in data collection (Crossley and Watson, 2003, p. 36-38).

Use of tests of knowledge of MIL

Another option for obtaining an indicator of MIL is to consider using a short generic test of knowledge of MIL, perhaps in a battery of tests of core skills. An approach like this has been applied in the USA where a graduate skills test has been imposed on students graduating from college which included mathematics skills, comprehension. There was a proposal to include a test of information literacy (O'Connor et al., 2002). This approach has substantial weaknesses especially if used as the only source of indicators. The first is that to the extent that the test is influential, such as if it determines entry to graduate school, it can lead to teachers teaching to the test and students focusing their learning only on what will count for the test. Not only does this eliminate learning about values from the outcomes of education, but it narrows the scope of the curriculum and hence negates the liberal education that is supposed to underpin all general education. A second limitation of such an approach is

that at best the knowledge test can identify what people know, and not what they do. As argued above, these can be very different matters. The example of driving a car should convince everyone that a test of knowledge is insufficient if relied upon as the only source of evidence.

A fundamental criticism of both indirect indicators of MIL and also of tests of knowledge about MIL is that civil society depends on values and attitudes, as well as knowledge and skills. Hence, it is what people do (and why), not what they know that matters.

Self-report indicators of MIL

Self-report has been used especially to gather evidence of attitudes of a population of interest. For instance there are scales that assess emotional intelligence (Schutte et al., 2007). The CAUL (Council of Australian University Librarians) information skills survey (Catts, 2003) uses this method to assess the information skills of a cohort of undergraduates. Provided the respondents are confident that their responses are confidential, a self-report survey can give a valid and reliable indication of capacities (Catts, 2005).

However self-report surveys can introduce bias because at least in some contexts in western society males tend to rate themselves consistently higher than females. In addition, where the range of capacities is very wide, some respondents with a detailed grasp of the implications of MIL may rate their capacities lower than others who see the concept of MIL as limited to relatively simple notions of the use of media and information.

Secondary analysis as a source of indicators

Secondary analysis occurs when data collected for one purpose is used to investigate a different issue. For example, a traffic survey might be used to estimate the contribution of traffic to pollution levels. In the UK, some items from a housing survey designed to find out about the condition of homes in which people live were re-analysed to assess the level of social capital in various communities.

The advantage of secondary analysis is that information is obtained without the cost of a new survey. If the original data is reliable, then it remains reliable for the new use – but it is only useful if the data is valid when applied to the new purpose. The question is whether secondary analysis is likely to work for MIL Indicators.

A study of the potential to obtain indicators of information literacy from household surveys suggests that this is unlikely to be true. The reason is that surveys of adult competencies such as PIACC (Programme for the International

Assessment of Adult Core Competencies) assess the capacity to comprehend and problem solve using received knowledge, and thus miss out important dimensions of MIL including the capacity to find relevant information, and the capacity to use media to communicate knowledge.

The information literacy secondary analysis case study (Catts, in press) was undertaken because there was evidence of overlap in definitions of Information literacy with Media literacy, Problem solving; ICT skills; and the content of Health surveys. After reviewing a range of national and international surveys the analysis considered the following well regarded surveys:

- The background survey for LAMP (UNESCO Literacy Assessment Monitoring Programme);
- OECD ALLS (Adult Lifelong Learning Skills) – problem solving section;
- Demographic and Health Surveys; and the
- OECD ICT skills survey.

Four experts reviewed their understanding of IL and then practiced using examples of items to develop consistency in identification of information literacy. Selected Items from the above surveys were assessed by the experts to determine whether they were evidence of IL, and then each item was assigned to an element from the UNESCO information literacy standard, and assigned a level of difficulty. The judgements of experts were compared and differences reviewed. Those items where there was agreement among experts were accepted as indicators of information literacy. The findings were that there was insufficient coverage of IL in each of the surveys.

Table 1: Indicators of Adult Information Literacy. A Summary of Secondary Analysis

Survey	Items Reviewed	IL Items	Valid Items
OECD ICT	34	32	21
OECD ALLS Problem solving	19	19	5
LAMP	46	7	3
DHS	5	3	0
TOTAL	104	61	29

Performance testing

The surveys outlined above all assess aspects of adult competencies, or aspects of adult health conditions and practices using surveys that collect data directly from individual respondents usually using an interviewer and often involving the person in demonstrating their performance by responding to material using print media or on a computer screen. Recent developments in computer assisted testing (CAT) make it feasible to use computers and the Internet to assess large numbers of respondents without the need for one to one observation. The access to the Internet, or its controlled simulation through a CD based package, could enable a mass testing scheme to include an assessment of the capacity of respondents to search for information, store it, retrieve it and use it to create new knowledge and to communicate this new knowledge. In addition a log of the activities undertaken by respondents to achieve such outcomes can be logged to establish the efficiency with which these tasks are carried out. The feasibility of such a project is under active consideration by UNESCO. The following are suggested issues that need to be considered in this process:

- subject the MIL Standards to field research by systematic observation of good practice;
- relate indicators to UNESCO MIL curriculum as well as to standards;
- define the target audience for indicators;
- foster collaboration between countries to learn about cultural and other ambiguities and bias in MIL competencies;
- control of the copyright of the indicators by UNESCO to allow free use by member states with acknowledgement and feedback of findings.

Conclusion

The concept of Media and Information Literacy provides challenges for specialists in media studies, in information science, and in librarianship, because to grasp the potential of MIL each discipline needs to recognise that this is a new construct, and not just a simple grafting of a few additional ideas to their core discipline. There is evidence already that each discipline will claim MIL as its own and treat the other disciplines as subservient sub-components of their discipline. This will lead to unnecessary turf wars. What we need is a respect for each discipline in its own right and a recognition of MIL as a discrete construct that draws on and integrates many components of the antecedent disciplines.

UNESCO has demonstrated leadership in media studies and in information literacy because these were seen as important parts of a comprehensive approach to the Information for All Programme (IFAP). With the recognition

of the implications of merging technologies for the future of the creation, use and communication of knowledge, the time has come to embrace MIL, and to develop indicators of MIL that Member States can use to monitor the effects of MIL policy and the impacts on practice. This is a vital activity to advance the rights of all to participate in civil society and to enable Member States to support their peoples to engage in the 21st century knowledge economy.

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New Tool for Promoting Media and Information Literacies at School: Handbook on the Pedagogies of Media and Information Literacies

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Media devices and the ways of using media are in constant change. In the 2010s, media are defined by variety, networking, and globalisation. Particularly in many metropolitan areas around the world, young people have grown up with Internet videos and digital games. The importance of media and peer groups has increased, and a greater part of growing up takes place outside the traditional learning environments.

The surroundings of young people are changed by the possibility of constant online presence, which is enabled by information technologies. The needs for promoting media and information literacies are essential and these modes of new literacies are today recognized almost universally as being a part of the key competences in the educational system, especially in UNESCO and other organizations with international orientations (see f.ex. Frau-Meigs and Torrent, 2009; Perez-Tornero & Varis, 2010; Wilson et al., 2011). The main challenges seem to be local: how to help administrators and teachers understand the importance of promoting media and information literacies? How to encourage teachers with the pedagogies on media and information literacies as part of everyday practices at school?

Recognising these challenges, UNESCO Institute for Information Technologies in Education (http://iite.unesco.org/) together with the Finnish Society on Media Education (http://en.mediakasvatus.fi/node/5568) have produced a tool for promoting media and information literacies among youngsters aged 13–18 years. The publication(s) are created as followings to *Media and information literacy. Curriculum for Teachers* (Wilson et al., 2011) and *Media Literacy and New Humanism* (Perez-Tornero & Varis, 2010). Moreover, focus on youths arises from the authors work for the Finnish National Board of Education, an online course titled the *World of Media,* for upper secondary education (Tuominen & Kotilainen, 2012, first published 2005).

In the *Handbook on the Pedagogies of Media and Information Literacies* (2012) the focus is on youth centred perspective and pedagogic practices,

tutoring how media and information literacies can be taught and evaluated in school with several examples. The role of information literacies is also visible in the handbook.

The aim of the handbook is for teachers themselves to become media and information literate and to encourage them to take up media education in the classroom. It provides teachers with basic knowledge on media and information literacy, the focus being on the way these skills can be taught. The publication includes informational texts, exercises for teachers, and exercises for the classroom. Classroom exercises have been chosen for their usefulness. They do not form a unified whole, but can be used in a variety of classroom contexts.

The Handbook on the Pedagogies of Media and Information Literacies is published as a book in English, online version is available in Russian and, hopefully, will appear in Finnish, too. The main target group for the handbook is teachers. This includes teachers on the secondary level who are either in training or in service. The material is also relevant to libraries, museums, NGOs, government officials and ministries, and other civic organizations.

Adding value to information literacies

In the Handbook on the Pedagogies of MIL, media literacy is combined with the concept of information literacy, as it is in recent publications by UNESCO (f.ex. Wilson et al., 2011). The combined media and information literacy forms a palette of skills, without which a 21st century citizen finds it hard to understand the surrounding world. This and other related concepts are discussed in the first module of the Handbook.

The first module reflects information sources, starting from their division into three categories: primary sources, secondary sources and tertiary sources of information. A skilful information user chooses several different types of sources, and uses them according to his or her needs. Here is the comparison between the three categories according to University Libraries, University of Maryland (Primary, Secondary and Tertiary Sources, 2006), available at: http://www.lib.umd.edu/guides/primary-sources.html#tertiary:

SUBJECT	PRIMARY	SECONDARY	TERTIARY
Art and Architecture	Painting by Manet	Article critiquing a work of art	ArtStor database
Chemistry/ Natural Sciences	Einstein's diary	Monograph on Einstein's life	Dictionary on the Theory of Relativity
Engineering/ Physics	Patent	NTIS database	Manual on using invention

Humanities	Letters by Martin Luther King	Website on King's writings	Encyclopaedia on The Civil Rights Movement
Social Sciences	Notes taken by a clinical psychologist	Magazine article on a psychological condition	Textbook on clinical psychology
Performing Arts	Film shot in 1942	Biography of the director	Guide to the film

Information literacy is understood as a set of competencies for obtaining, understanding, evaluating, adapting, generating, storing, and presenting information for problem analysis and decision-making. Information literate people possess basic skills for critical thinking, analysing information and using it for self-expression, for becoming independent learners, producers, informed citizens, professionals, and for participating in the governance and democratic processes of their societies (see f.ex. Bundy, 2004; Andretta, 2005; Bruce, 2003; Casacuberta, 2007; Bates, 2009).

The elements of information literacy include (f.ex. Francke et al., 2011; Bundy, 2004):

- Identifying/recognizing information needs: What do I want to find out? What kind of problem am I trying to solve?
- Determining sources of information: Do I use the Internet, books or television? Do I use primary, secondary or tertiary sources?
- Locating or searching for information: Where should I look for information? Who can I ask for help?
- Analysing and evaluating the quality of information: How do I know the information is reliable?
- Organizing, storing, or archiving information: How do I efficiently organize information from multiple sources?
- Using information in an ethical, efficient, and effective way: How do I take copyright into account?
- Creating and communicating new knowledge: How do I present my information?

Media and information literacy concerns the role and function of the media and other providers of information such as libraries, archives, and the Internet in our personal lives and in democratic societies. It promotes individuals' rights to communicate and express, and to seek, receive, and impart information and

ideas. It encourages the evaluation of media and other information providers based on how they are produced, the messages being conveyed, and the role of the intended audience (f.ex. Wilson et al., 2011).

Perspective on young people as users and participators

Young people use media more actively than the older generations do. They send pictures straight from their mobile phones into social networking sites, comment on news items, and catch up with each other online. As an audience, they are smaller than that of the main news broadcast, but they are nevertheless public agents. The laws regulating public broadcasting also cover the young people who upload pictures, videos, and texts online. The goal of focusing on the young in the Handbook on the Pedagogies of MIL is to make visible the media environment of young people, and to ponder the concept of 'an audience' as a base for teaching media and information literacies (Kotilainen et al., 2011; Carlsson, 2010).

The second module reflects young people and media participation asking whether they are targets, receivers, users or co-producers? Moreover, youths' relationships with the media are reflected, from the perspective of developing identities among 13–18 years old. Global views into young people's relationships with the media are covered by media diaries around the world. Finally, the question how media can be utilised in civic participation among youngsters is discussed.

Perspective on youths is present also in other modules, presenting main questions from the viewpoints of the young, also in exercises. The third module discusses the aspects of technological and media developments in human living environments. The forth module focuses on interpreting and analysing several kinds of media texts. The fifth module concentrates on collaboration work between school and libraries and between school and youth organizations in pedagogic practices on media and information literacies.

Focusing on teaching media and information literacies

Focusing on the pedagogies, the Handbook on the Pedagogies of MIL puts efforts on teaching, exercises and evaluation. Moreover, it reflects the techno-pedagogic differencies of teaching media and information literacies.

Every teacher can be a media educator, conveying to his or her students the skills they need for living in a media culture. There is strength in the diverse ways teachers approach media in their work. Media and information literacy education, however, is not any different from any other kind of education: basically, it is about encountering one's pupils. Although media and information literacy education makes use of different media tools, at its heart lie educational

goals and methods, and the interaction between teacher and pupil (f.ex. Kotilainen & Arnolds-Granlund, 2010).

The development of media and information literacy requires from the pupil an immersion in the production of media content. Experimentation is an important starting point in media and information literacy education. It is important that pupils get chance to experience different roles in media production and agency. It is equally important, however, that a reflective aspect is added into these experimental media lessons – teaching the pupils to ask: what did I learn about media through this exercise? (f.ex. Kotilainen & Arnolds-Granlund, 2010).

The Handbook suggests three levels of teaching media and information literacies: elementary, basic and advanced. They differ in several aspects, for example, in technological learning environments, in students' media skills, in library resources and in teachers' knowledge on media and information literacies. These differences have been taken into account, for example, in planning exercises for the classroom. The three levels can be used as a tool, when, for example, planning local teacher education on media and information literacies.

Towards cultural variations

Starting from the Glossary of Terms related to media and information, the Handbook on the Pedagogies of MIL is divided into five modules, each of them concentrating to one topic area. All modules have short introductions from a special perspective to pedagogies on media and infomation literacies and reflective exercises to the reader. Moreover, modules 1–4 are followed by classroom exercises which get more advanced from module to module. Only the last module 5 has not exercises, but case studies and examples from Finland instead.

The contents are as follows:

- Glossary of Terms;
- MODULE 1: Understanding Media and Information Literacy;
- MODULE 2: Young people as a global media audience;
- MODULE 3: Media cultures and technologies;
- MODULE 4: How to interpret media;
- MODULE 5: Cooperation and sharing ideas.

For the reader is left the task to apply the contents to each reader's own cultures of teaching media and information literacies, which is very much dependent on the national and cross-national media environments and communication policies, additional to educational policies. They frame the

uses of media among young people and their possibilities to learn media and information literacies at school. The Handbook on the Pedagogies of MIL gives one kind of model, which can and should be contested with cultural variations and local pedagogic applications.

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Identifying Indicators in Information Literacy Competency – Differentiating Between Objective and Subjective Data

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Introduction

There has been no shortage of research reported in the scholarly literature on measuring Information Literacy among students at all levels of education. However, there is a need for researchers and practitioners alike to be aware of the real meaning of "competency" in information literacy as opposed to "information literacy". They must also distinguish between perception-based data and evidence-based data that are to be used to indicate the performance or outcomes of information literacy since both types of data are suitable for different purposes in information literacy measurement. Within this context, the main aim of the paper is to draw our attention to the meaning of competency and to choose the right kind of instrument to suit the nature of competency to be measured.

Competency defined

Let us examine some definitions of 'competency' as given by professional bodies. The Chartered Institute of Personnel and Development, UK, has defined 'competency' and 'competencies' as "*the behaviors (and, where appropriate, technical attributes) that individuals must have to perform effectively at work*" (CIPD, 2012). A more comprehensive definition used by the British Council states: "*A competency is an attribute, knowledge, skill, ability or other characteristic that contributes to successful job performance. Behavioral competencies are observable and measurable behaviors, knowledge, skills, abilities, and other characteristics that contribute to individual success in the organization"* (The British Council, 2004). Therefore competency must be seen and observed through specific behaviors that result in task performance. It is important for us to bear in mind that a person may have the skills and knowledge to perform a certain task, but may fail to do so because the task is not to his/her liking. In such a case, the person's competency is not demonstrated and not known to others. Hence, a competency implies the practical application of skills, knowledge and attitudes altogether combined into performance. When we apply this concept to information literacy competency, it means that a person has to behave or do certain tasks in a certain manner that reflect his/her skills, knowledge and attitudes in information literacy.

Information literacy competency

Thus it follows that an information literate person has the skills, knowledge and attitudes to perform certain tasks that can be observed and measured in order to determine his/her competency. Several professional bodies have already established frameworks for information literacy which can be referred to by interested parties from their respective web sites. The desired outcomes of an information literate person have been described in details in the standards prescribed by the American Library Association (2004), the Australian and New Zealand Institute for Information Literacy (Bundy, 2004), and the British SCONUL's Learning Outcomes and Information Literacy (SCONUL, 2004). A more recent publication by UNESCO (2007) reviews the state of the art on the current trends and development of concepts and initiatives on information literacy in various countries around the world, excluding Asia and the Pacific nations. It can be seen that the information literacy outcomes adopted by various countries are more or less based on the original ones initiated by the American Library Association (ALA) with some modifictions. Here we refer to the ALA's outcomes as the ability to:

1. recognize when information is needed,
2. locate, access, and retrieve it efficiently,
3. evaluate and use it effectively to achieve certain goals,
4. use information effectively to accomplish a specific purpose,
5. understand many of the economic, legal, and social issues surrounding the use of information and access and use information ethically and legally.

Assessing behavioral outcomes of information literacy (IL)

The above outcomes need to be translated into specific action or behavior in order to be measured. The complexity of conceptualizing various parameters to be used as indicators of outcomes has been well discussed by Webber (2004) and Gendina (2008). Webber gave an account of information literacy assessment in Australia, Canada, US, and UK with case studies, while Gendina covered the IL initiatives in the Russian Federation. Both researchers share the notion that the assessment of IL outcomes is no simple matter, and there is no common instrument that is suitable for all. To determine students' information literacy competency in the above 5 areas, the researchers need to select the behavioral words that indicate students' ability to perform the above 5 outcomes of information literacy. To start with, we need to ask ourselves: what behaviors indicate that students recognise the need for information? What actions indicate that they are able to "locate, access and retrieve information efficiently"? And so on and so forth.

It can be seen that all outcomes of information literacy imply students' cognitive knowledge and skills that are applied to certain relevant tasks. Therefore the researchers need to identify the behaviors that are exhibited by students who apply such knowledge and skills. In this regards, guidelines provided by Bloom and colleagues (Huitt, 2011) are useful for us in choosing the right behavioral words that represent cognitive domains. For example, if we want to know whether students are able to recognise the need for information, we can ask them to "list, state, or describe…" it. Likewise we have to identify some other behaviors to indicate their competency in locating, accessing and retrieving information. On the other hand, the ability to "evaluate and use information effectively to achieve certain goals" may take more time and different instruments to ascertain that specific goals are achieved as a result of using information effectively. Bear in mind that cognitive abilities, namely: "know, understand, recognise" cannot be measured until these are demonstrated through actions and behaviors. Hence we have to identify actions and behaviors as indicators to each specific IL competency.

The meaning of evidence-based data

The interest in evidence-based research in the field of library and information management has increased over the past decade and became more apparent in papers presented at the first Conference on Evidence-Based Librarianship (EBL) in September 2001 at the University of Sheffield, UK. Subsequent annual conferences on EBL were organized by various interested groups in universities in Sweden, Canada, USA, Australia and elsewhere. An electronic refereed journal *Evidence-Based Library and Information Practice* introduced in 2006 at the University of Alberta Learning Services department reflects the continuing awareness and rising interest among researchers and practitioners in the field. Both the papers presented at the EBL conferences, and the articles which have appeared in every issue of the aforementioned journal, have provided many useful cases and situations for additional EBL research.

According to Andrew Booth (2004), the initiator of EBL in information practice, *evidence-based librarianship is an approach to information science that promotes the collection, interpretation, and integration of valid, important and applicable user-reported, librarian-observed, and research-derived evidence. The best-available evidence, moderated by user needs and preferences, is applied to improve the quality of professional judgements,* according to this expert. This definition is applicable to the concept of EBL and measurement of IL competency in this paper.

Differentiating factual data and perceptive data

Factual data are objective data based on actual happenings which can be observed and measured. They include, for example, medical evidence and legal evidence used in decision-making by learned medical and legal practitioners respectively. On the contrary, perception-based data cannot, by themselves, reveal the objective facts to researchers. For example, learned medical practitioners will not decide on prescribing a particular medicine for treating a fever merely based upon a patient's complaint of feeling feverish. Rather, they must use a scientifically-proven instrument (e.g., a thermometer) to measure the exact temperature of the patient's body before they can determine if the fever actually exists, and the degree of seriousness. They must also perform, often times, a battery of other tests to identify the causes of the fever. Is it, for example, a simple cold, or a flu virus? Or is it one of a series of symptoms revealing a serious underlying infection or disease of some kind? Similarly in legal cases, judgments are made based on evidence shown by actions, behaviors, and materials of all parties involved in the case – never solely on the opinions and perceptions of certain individuals. Often people convicted of crime state that they are not guilty when charged in court, but their behaviors provide evidences of the contrary. In short, a popular layman saying, '*Words can lie, but actions cannot lie,'* is a common guideline used in decision-making based on factual data.

Perception-based data, on the other hand, do not necessarily indicate the reality of the situation. They are "perceived" or "opinioned" data derived from feelings or personal attitudes which are influenced by various factors depending on the situation surrounding the person at a particular place, at a particular time. Such perceptions vary a great deal from one person to another. Hence, many of the perception-based data are subject to rigorous tests of validity and reliability which are based mostly on the consistency of the wording in the questions/answers, and statistical results of data analysis. Although perception-based data can be useful in many areas, such as marketing studies or public opinion poll, decisions that are made based merely on perceptions and not on factual data may lead to negative impacts and conflicts in organizations and society.

Using factual data in decision-making is one of the eight quality principles outlined by the International Organization for Standardization for performance improvements (ISO 9004:2000),i.e. the seventh principle of "*Factual approach to decision making*". In the present era of management where integrity and transparency are the hallmarks of quality, using evidence-based data is the indicator of quality managers. While evidence-based management has increased in use, some qualitative studies may also be needed to compare perceptions with actual practices.

Within the context of library research, factual data can be found in virtually all kinds of actions, behaviors, transactions and documents that can be observed, counted and measured. Oftentimes such data can be collected unobtrusively without involving users. The previous article (Abdullah, 2010) has already compared and contrasted some of these instruments for collecting factual and perceptive data and shall not be repeated here.

Evidence-based study vs. perception-based IL study

Maughn's study (2001) among students at the University of California, Berkeley, provides a good example to demonstrate the significant differences that between perception-based and performance-based data. The study uses both "Self rate" and "Skill test" on undergraduates from 8 different departments of a university. Findings indicate that most respondents (70 to 77%) rated themselves as "excellent" or "pretty good"; only about 14% self rated as "pretty poor". However, the results of their performance on the IL skill test showed between 35 to 81% obtained "poor" or "fail" scores. Hence it is clear that perception can be misleading while evidences show the factual ability on specific tasks.

Another similar study conducted among undergraduate students at California State University, Monterey Bay, compared students' self-perception and evidence from performance outcomes. Their findings did not indicate that students with a high opinion of their skills perform better on the given assignment (Weisskirch and Silveria, 2007).

Another scenario where evidences take prominence over perception is during the job interview and recruitment process. Most employers determine the ability of suitable candidates through tests and simulation exercises whereby the candidates are required to perform certain tasks. The performance's outcomes are more accurate as indicators of one's competency than self-rated questions where respondents can overestimate or underestimate themselves.

Several IL programmes in Nursing and Medical/Health Sciences demonstrate the assessment of IL programmes using evidences from students' performance, as this practice is emphasized by educators in the Healthcare profession. Dr. Pravikoff (2000) highlighted the importance of information literacy skills in the era of information technology and evidence-based practice: *"For the good of the nursing profession, educators must master these tools and demand mastery from their students."* A survey of learning outcomes among graduates of Occupational Therapy conducted by Case-Smith and colleagues (2003) is another good example of evidence-based assessment.

Dorner's report (2001) on the IL programme implemented at Ball State University in Muncie, Indiana, reflects a collaborative effort between librarians and faculty in designing a tiered approach to building student research skills, year

by year. A series of information literacy competencies for nursing students was agreed upon, and required courses were then designed to suit these competencies and taught in the undergraduate and graduate programmes. When pre-tests are implemented before students take the IL programme and post-tests done after their completion of the programme, researchers are better able to determine if the IL programme has produced the desired outcomes.

Evidences of IL competency can aslo be found in the work produced by students at the end of their study, usually in the form of an essay, research proposal, or research report. Such investigation was carried out by Emmons and Martin (2002) among students at the University of New Mexico, who were required to produce a researched essay after they were taught IL skills relevant to the course. The study managed to analyse the contents of students' essays to determine which specific areas of IL skills were needed for students' improvement as well as for instructors of the IL programme.

Another study conducted in Malaysian universities collected evidence from students' responses in a survey which required factual knowledge under specific IL competency (Abdullah et al., 2007; 2006a; 2006b). The process of identifying behaviorial indicators for all IL outcomes was time-consuming and complex. It was also discovered that it is impossible to measure all outcomes using one survey instrument. Hence, specific questions were designed to measure competency in measurable behaviors, namely: locating, evaluating, organising, and using information with ethical considerations. Each response was assigned specific scores and tabulated so as to compare different levels of competency among students from various disciplines and universities. This assigning of scores is very much like the rubrics used to identify students' IL competency levels developed by the team at the New Jersey City University (Bulaong et al., 2003) where four levels of IL competency, namely: *novice, developing, proficient,* and *accomplished*, were used for American students. Respondents' scores are cross-tabulated with several variables under students' background and information behaviors in order to identify relationship between their performance and relevant variables. Some of the interesting findings showed that students who had written assignments in essay format; students who had attended either the library orientation for new students, or a voluntary information skills course for new students, or a compulsory information skills course in the first or final year; and students who had read history books in their free time, showed higher competency level. Another noteworthy finding is that students who frequently read English materials showed higher competency level than those who read in their mother tongue, i.e. Bahasa Malaysia, or Chinese, or Tamil.

Perception-based data

In contrast to objective data obtained through the above-mentioned evidences, perception-based data are obtained from survey instruments that seek responses to the questions such as:

1. Do you find the library skill techniques taught by the librarian useful?
2. Are you able to apply the techniques learnt to your workplace?
3. Do you find the instructor knowledgeable?
4. Do you find the instructor approachable/helpful?
5. Is the presentation clearly delivered by the instructor?
6. Do you think your IL skills have improved through the library instruction programme?

Other questions of similar nature seek to find out whether the venue, the timing, and the length of the programme suit the participants. These questions do not relate to the outcomes of information literacy. Responses from the study may indicate whether the IL programme was well implemented or not; they focus on obtaining feedback about the administrative aspect and the instructor of the programme. They may be useful for planning and administration of future programmes. However, they do not point at specific aspects of the content that need modifications or improvement. Certainly they do not assess students' competency as the outcomes of having gone through the programme.

Another study by Marshall (2005?) used a self-rated questionnaire as an instrument to collect data from 2 groups of students in 2001 and 2005. Although the instrument was named *Information Competency Assessment Instrument (ICAI),* it did not really assess students' actual competency. The findings could only tell us about students' opinion on their ability, not their real performance.

Examples of self-rated statements are:

1. I can differentiate between an index and an abstract.
2. I can differentiate between a scholarly article and a popular article.
3. I can differentiate between primary and secondary data.

As competency can only be assessed by observing and measuring actual performance of individuals, the above statements must be translated into a performance-based instrument. In order to arrive at performance-based assessment, the researcher can provide students with samples of indexes and abstracts for item 1, scholarly and popular articles for item 2, primary and secondary data for item 3 and ask students to demonstrate their knowledge

about these materials by identifying them appropriately.The students' ability to differentiate one from another under each item is the evidence of their competency in identifying and differentiating various information products.

Can self-rated ability be used as evidence?

It is important for researchers and assessors of information literacy to take note of the differences between data obtained from students' self-rated instrument and that of actual performance. Can self-rated data be used as evidence of performance? To answer this question, let us examine another study conducted by Clark and Catts (2007) as reported in the open access journal *Evidence Based Library & Information Practice,* whereby the researchers administered 20 self-rated questions to first and fourth year students of a medical course at the University of Western Australia. Each question was designed to match a specific standard statement of the Australian and New Zealand Information Literacy Framework. The study provides yet another example of perceptive data indicating variations of self-opinion among respondents. Some of the self-rated statements are:

- *When I get a new idea, I work out how to explain it effectively.*
- *I have a system that helps me organize the information I need.*
- *I critically evaluate each information source I use.*

The above statements raise the question: what are the evidences used to support the responses? Besides, it is uncertain whether students really understood the meaning of "effectively" in the statement.

Conclusion

The task of measuring each and every one of the outcomes of IL competency is definitely complex. It is also impossible and impractical to measure all outcomes using one instrument in one sitting. A specific instrument is needed for measuring specific behaviorial performance. This complexity has been previously described by Abdullah (2010), Gendina (2008) and Webber (2004). The administration of the measuring tool in the form of a test needs consent and genuine interest from students and faculty alike. The whole exercise should not take more than 30 minutes of respondents' time, especially if the test is not part of a requirement of a course that students have to take in their academic programme.

This article has highlighted the differences in assessing the outcomes of students' information literacy by differentiating perception-based data and evidence-based data as a measure of performance outcomes. Evidence-based data must necessarily be obtained from actual performance of students

through information skills tests, while a self-rated opinion remains an opinion, not the actual outcome. Likewise, information literacy competency should also be measured from the outcomes of performance, not from one's opinion about one's ability. It is important that researchers and practitioners of library and information science distinguish the differences between these two types of data in their investigation and are aware that they serve different purposes. However, evidence-based data lend more credibility to their users in decision-making and has been outlined as one of the quality principles in management by the International Organization for Standardization.

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OER Literacy: Are Academic Librarians the Missing Link?

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OER, the acronym of Open Educational Resources, was first used just over a decade ago (2002) at a UNESCO meeting. Its first definition was: "technology-enabled, open provision of educational resources for consultation, use and adaptation by a community of users for non-commercial purpose". Now it has evolved to: any resource available at a little or no cost that can be used for teaching, learning, or research (Educause, 2010).

These resources include textbooks, course reading, simulations, games, quizzes, or any material that can be used for educational purposes. They are not limited to electronic resources. They can originate from universities but also from governments, publishers, or individuals. OER enhance the possibility of collective creation of pedagogical resources with different types of actors: professors, students, researchers, experts, public servants, individuals (local knowledge), etc.

While these resources can be used in e-Learning, they are not e-Learning as such (despite the fact that they are often amalgamated to e-Learning), they are supports for teaching and learning and not study programmes.

And most importantly, they are published in order to give everyone the right to re-use them as such or in part, depending on their licence.

OER have very rapidly (in 10 years) gained momentum, mainly because they are seen as a solution to:

- the economic crisis and less funding for education, and
- the recognition of the need for a greater number of better educated people in order to enhance the development of all countries and every individual.

Their potential is particularly acknowledged at the higher education level where, in most cases, institutions are asked to do more (in terms of access, equity, service to the community/society, quality, etc.) with less funding.

In a very short time, tons of OER have been produced. Yet, the production is not geographically equitably balanced and not all fields of study are represented.

The momentum culminated in June 2012 with the organization at UNESCO (with support of the Commonwealth of Learning) of the First World Congress on OER where government representatives agreed on a not-binding but still internationally approved Declaration to promote OER in every country. Moreover, all at the Congress were certain that OER would be mainstreamed.

For all these reasons, one can already say that if not now, then at least tomorrow it will be of the utmost importance for everyone with an educational project not simply to be more than aware of OER, but to become OER-literate.

Whereas OER may or will be tomorrow's main support for teaching and learning, a multitude of questions arises:

- Where are OER located? How would I know where to look for an OER in a specific field? Is Googling enough?
- What about their quality? Presuming that a MIT course should be of quality what about others from less famous institutions? In the case of several results, which OER should I choose and on which criteria?
- How can they be used? Where do I find information on their licence? Which tools do I need to be able to reuse them? How would I be certain that my OER is correctly licensed and qualified for retrieval purposes?

Those questions can easily be regrouped under literacy abilities as defined by UNESCO (or Wikipedia) as:

- the ability to read (or identify) in order to access OER;
- the ability to think critically (or to understand and interpret) in order to evaluate available OER;
- the ability to write (or create, communicate, and compute) in order to produce one's own OER, to re-use existing ones and to deal with copyright and retrieval issues.

Consequently, as:

- the concept behind OER is that they are openly offered to be reused;
- some regions are lagging behind in OER production – which can be reusing and/or mixing existing OER and not only creating a new OER from scratch – thus risking a levelling of knowledge, leading to what could be seen as a new type of colonisation (most current OERs having been created in developed/emerging countries);

- not all fields/languages are yet represented – at least equitably – in OER;

it is important, in my view, that each and everyone become more than just OER literate (that is to say to read and think critically) but OER user and re-user literate (to write).

But once one knows that he/she must become fully OER literate, a multitude of new questions arises mostly linked to the multiplicity of sources and the constant evolution and variety of techniques and copyrights. Can all individuals do all that?

My response is “No”, at least at the time being when no mapping of OER exists, and techniques are still under development.

And here comes the academic librarian.

From a desk-top research on the Internet on the involvement of academic librarians in OER, we found very little evidence of their involvement. Only 15 documents and 2 blogs addressed entirely or partly this issue. Two are theses and most documents originated from Anglophone countries.

Of course, we might have found more documents if we had looked at all types of librarians but this was not the object of our search.

Yet, several academic libraries have been very active in OER, such as the Library of the University of Michigan which is part of an institutional task force on OER and is collaborating on copyright, preservation and archiving courses and resources, and student outreach in the matter.

As Kleymeer, Kleinman, and Hanss (2010) advocate, by partnering with libraries, OER operations can become more firmly embedded in the spirit and structure of the university and shift the value system towards one that privileges research and training materials that are available for use and reuse.

To explain how the academic librarian can help, I will use Robertson’s (2010) list of services that academic libraries would be able to offer to promote, support and sustain OER initiatives. All are related to services already being offered by libraries for other supports:

- Subject-based guides to finding resources (to read);
- Information retrieval and evaluation (to think critically);
- Managing intellectual property rights and promoting appropriate open licensing (to write);
- Metadata and resource description (to write);
- Information management and resource dissemination (to write).

And of course libraries can propose OER on these subjects to students and faculty.

Therefore, considering that:

- librarians as a community have supported the wider open access movement (IFLA Statement on Open Access, 2011) and OER are one aspect of the movement;
- librarians are trained to find the right information, provide training in new technologies and information retrieval, deal with copyright issues, disseminate information that is needed for OER;
- the librarian's role must evolve to survive at a time when people think they can find all they want on the Internet – but rarely free of charge except at the higher education level where libraries pay subscriptions to online periodicals for the academic community (with this aim, they could become "blended librarians" (Zenka, 2012) and integrate instructional design and technology skills into the traditional librarian skill set, be less turned towards acquisition and preservation than to access and tools);
- academic librarians play a central role in the institution liaising with all its constituencies;
- the level of material published on the Internet on their role for OER is very low,

Academic librarians could be the missing link towards a better integration/ development of OER in every university.

This is the reason why the International Association of Universities is planning to launch a project to train and support academic librarians on OER use, reuse, and production. The concept was first tested on IAU Membership, with a call for expressions of interest which resulted in many positive responses. The second phase will be the organisation of a validation workshop to test the concept live on a community of academic librarians in Africa. Once validated, it would be scaled up to be developed everywhere.

The IAU Project's aim is to enhance academic libraries' awareness and knowledge of OER in order to:

- ❑ create a community within the higher education sector worldwide with good knowledge of OER through:
  - capacity building sessions,
  - a web-based area for sharing information and tips;
- ❑ participate in a greater and better use and reuse of OER;

- help identify and efficiently reference OER;
- contribute to a more equitable geographical and topical balance of OER production;
- promote the role of the academic librarian; and
- enhance the idea of a community of learning that would not leave anyone aside (students, faculty, administrative staff including the librarian, communities) help everyone to become fully OER literate.

To conclude, I am glad to say that the library sector was named as one of the key stakeholders in the Paris Declaration on OER approved by acclamation at UNESCO following upon a comment we made on the draft declaration. The importance of the role of the librarian in OER development is internationally acknowledged. Let's now take the opportunity we, as librarians, have been offered to make the best of it.

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"Digital Natives" and Their Media Worlds: Starting Points for Promoting Media and Information Literacy

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When information professionals aim to promote media and information literacy (MIL) among the so-called "digital natives", it might be a good idea to approach this matter from the perspective of the target group. This article gives a short overview of current youth media research results based on representative studies from Germany, the US, and the UK. The main focus will be on two questions: "**How** and **why** do young people today use digital and traditional media the way they do?" And: "Where are the starting points for promoting MIL in the light of these research findings?"

"Digital natives" – a generation of media maniacs?

Nowadays, media are among the most powerful forces in young people's lives. Quantitative youth media research tells us that over the last five years there has been a huge increase in media use among children and adolescents.[1] In 2011, according to representative surveys in Germany, 14- to 19-year-olds spent 125 minutes each day on the Web. Though *TV is no longer* the primary medium for the 14–19 age group, German adolescents still watched 114 minutes of television per day. In total, they spent 474 minutes per day using various media. This seems to be an enormous amount of time, supporting the stereotype that digital natives are addicted to the media. Surprisingly, compared to the rest of population, young people spend significantly less time with the media (see Figure 1). Adults and especially older people watch TV much more and spend more time listening to the radio.

[1] Cf. Rideout et al., 2010; Livingstone et al., 2011 or Medienpädagogischer Forschungsverbund Südwest, 2011.

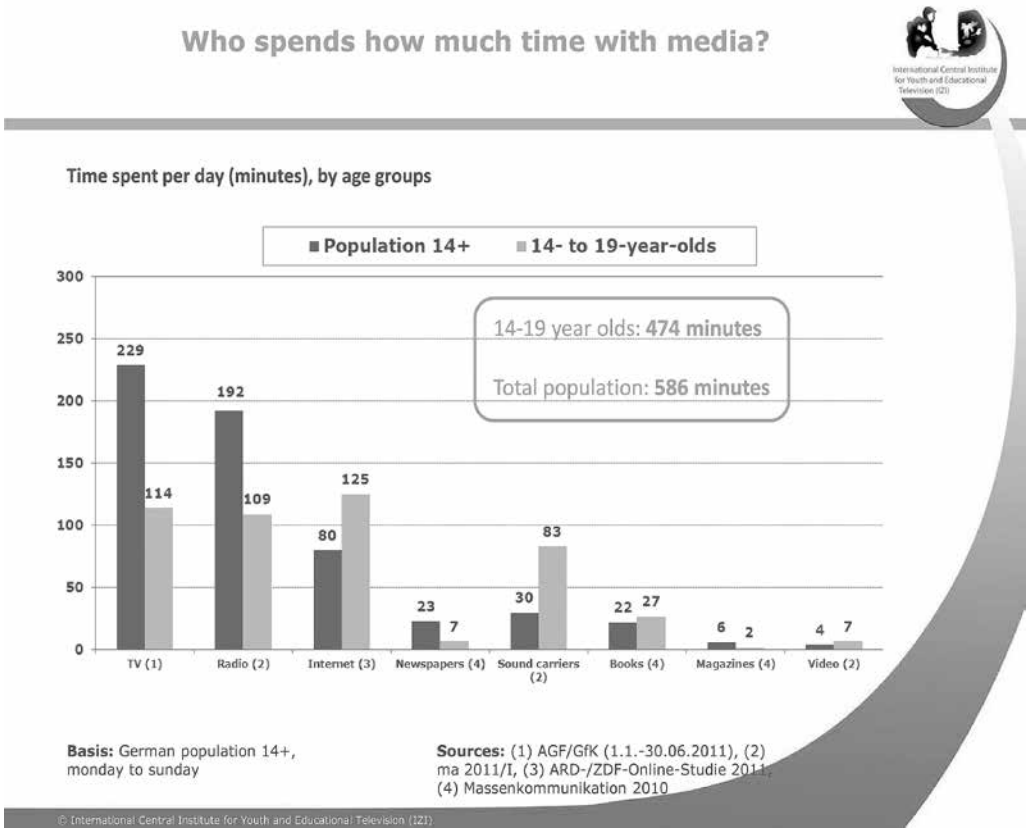


Figure 1. Who spends how much time with media?

When digital natives are asked which medium is the most important to them, the Internet ranks first. When asked in 2010 what types of media they would strongly miss and take with them to a deserted island, for 70% of the 14- to 29-year-olds the Internet was the first choice (see Figure 2). But they also appreciate and feel attached to newspapers (24 %), radio (36 %), and TV (41 %). This indicates that the so-called generation of digital natives are not abandoning traditional media at all. On the contrary, this media generation overall has a very positive image of newspapers (“sophisticated”, “credible”) and TV (“entertaining”), but these media seem to lack modern appeal (see Figure 3).

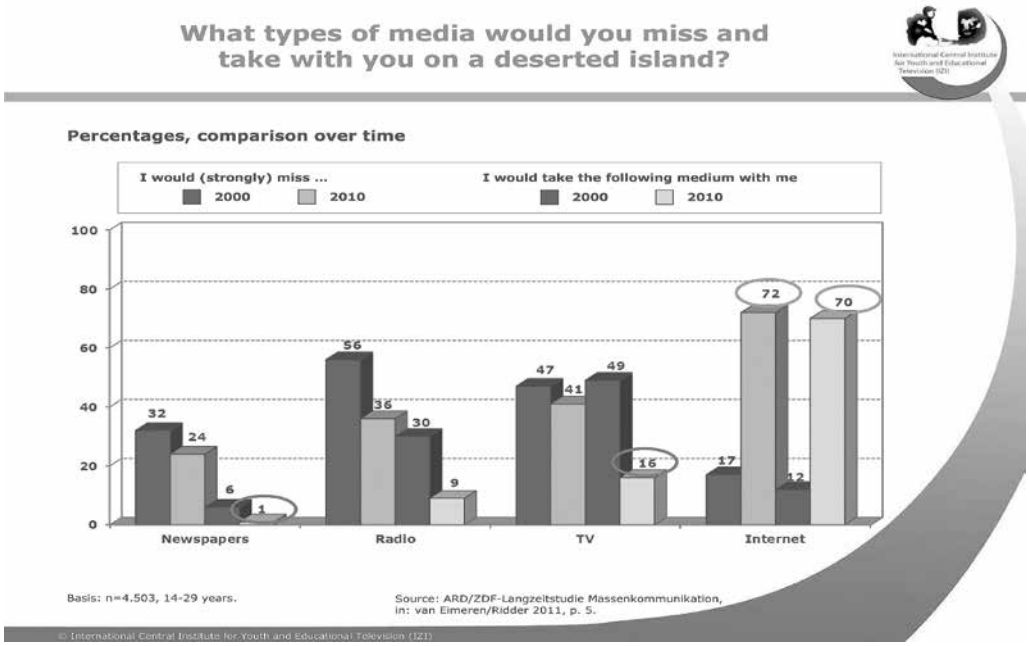
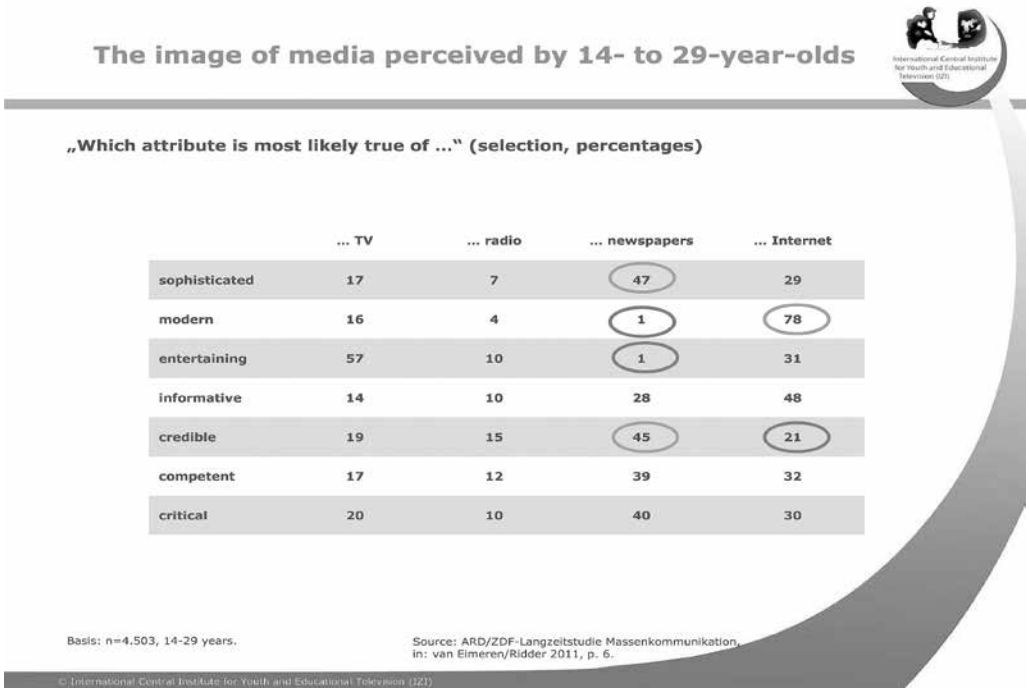


Figure 2. The "island" question



	... TV	... radio	... newspapers	... Internet
sophisticated	17	7	47	29
modern	16	4	1	78
entertaining	57	10	1	31
informative	14	10	28	48
credible	19	15	45	21
competent	17	12	39	32
critical	20	10	40	30

Figure 3. Media image and digital natives

Youth media research also tells us that the way young people use computers and the Internet appears to be very different from the way they use traditional media. First of all, it is important to realize that digital natives are masters of media multitasking. According to a US research results in 2010, 29% of the total media exposure time was spent with media multitasking. For example, while using the computer digital natives tend simultaneously to watch TV or play video games[2]. Furthermore, in everyday life the Internet is transforming the social world of adolescents by influencing the way they communicate and establish and maintain relationships. It is hardly surprising that 44% of the time German 12- to 19-year-olds spend on the Web is devoted to communication and social networking functions, while only 15% is used for information searching[3] (see Figure 4). In any case, for this generation the Web is the most used and appreciated medium because it provides tremendous opportunities for their socialisation. The Internet helps define adolescents' social identities by enabling multiple communication functions such as instant messaging, chats, and blogs, so they can easily connect with their peers and find social support. Though digital natives appreciate the credibility of traditional media, they do not consider them entertaining.

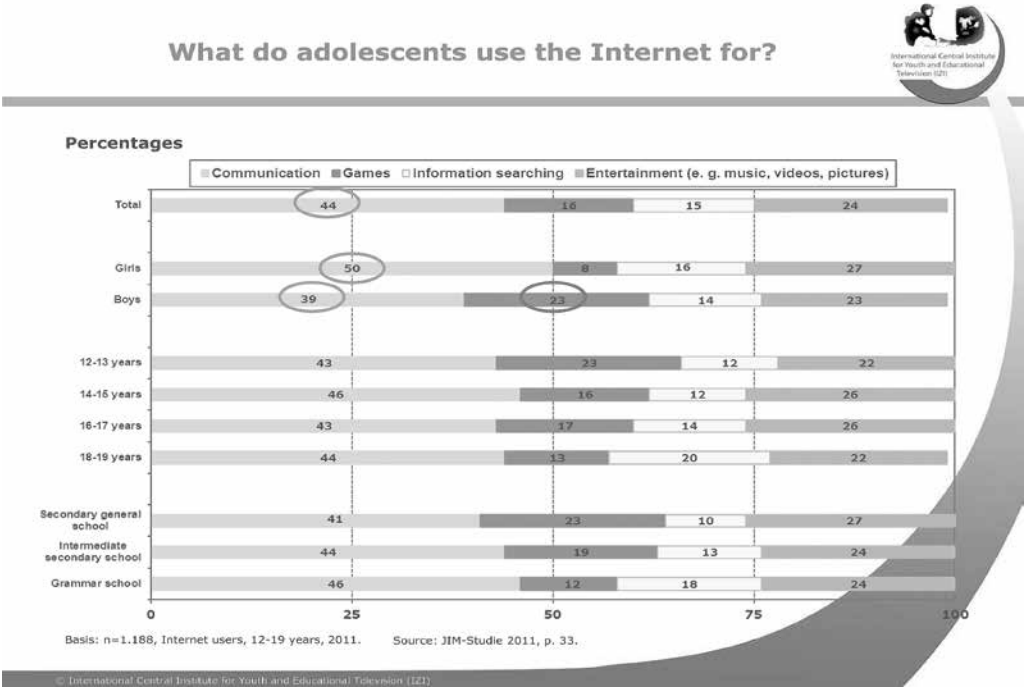


Figure 4. Main activities of digital natives on the Web

[2] Cf. Rideout et al., 2010.

[3] Cf. Medienpädagogischer Forschungsverbund Südwest, 2011.

Digital native or digital naïve: information seeking behaviour and use of Web 2.0

If digital natives use the Web to search for information, their search behaviour is mainly characterised by routine and effectiveness, rather than by thoroughness and information literacy as librarians would prefer it to be. The survey results of the "Google Generation" research studies at UCL CIBER in London[4] have alarmed librarians worldwide since they indicate that the information search behaviour of students has deteriorated significantly. Overall, the study's authors blame poor understanding of information needs and the unsophisticated mental maps of the "Google Generation" for their lack of information literacy: "consequently, young people do not find library-sponsored resources intuitive and therefore prefer to use Google or Yahoo! instead: these offer a familiar, if simplistic solution, for their study needs".[5]

Several research studies in the information seeking behaviour of digital natives support the assumption that information literacy competencies of young people have not improved despite the growth in ICT skills and the increased access to the Web, especially in the support of learning processes. For example, the Information School at the University of Washington has conducted a nationwide, large-scale research project on young adults and their information search behaviour, competencies, and the challenges they face when conducting research in the digital age[6]. According to the authors, "the findings suggest students use an information-seeking and research strategy driven by efficiency and predictability for managing and controlling all of the information available to them on college campuses, though conducting comprehensive research and learning something new is important to most, along with passing the course and the grade received".[7]

The majority of the 8,353 undergraduates surveyed tended to turn to the same databases and to prefer the same search strategies, regardless of the topic or the information needed. As a whole, the main problem of this media generation seems to be not finding any information at all (see Figure 5). The challenge for digital natives is learning how to reduce the number of search options so that the task becomes more manageable for them. Though evaluating information resources is considered a collaborative process, librarians are not recognised as being experts or partners.

[4] Cf. Rowlands et al., 2008, and Nicholas et al., 2011.
[5] Nicholas et al., 2011, p. 30.
[6] Cf. Head & Eisenberg, 2009 and 2010.
[7] Head & Eisenberg, 2010, p. 1.

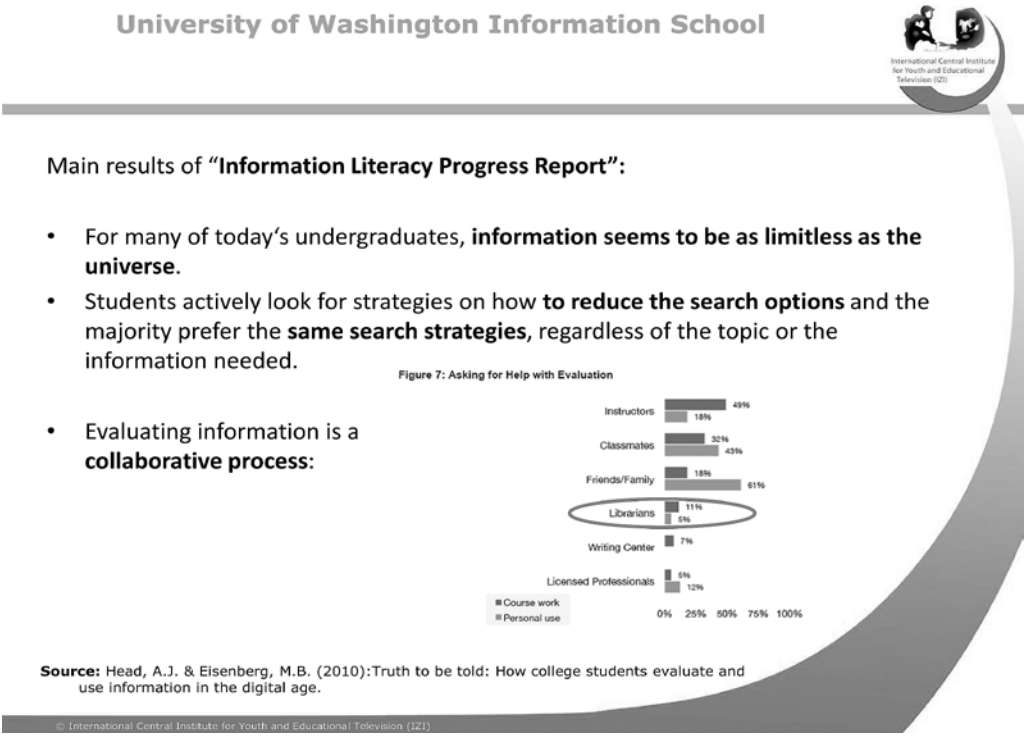


Figure 5. Main results of the "Information Literacy Progress Report"

Furthermore, the "Information Literacy Progress Report" found significant differences in the information sources used by undergraduates for course-related research and the resources used for their daily information needs. When it comes to personal research needs, fewer than half of the students use libraries or library databases – alarming results for information professionals who think that libraries as they are can survive in a digital world.

We also need to accept the fact that the skills students develop using social networking tools do not necessarily translate into good information search skills in a learning context. Research suggests that young people lack the capabilities to utilise social and digital media for their learning.[8] Experiences with Web 2.0 technologies are limited to passive use (Wikipedia, YouTube) and participation in networking platforms (Facebook). But there is also evidence that digital natives, though they do not have sophisticated knowledge and skills with information technologies, tend to consider themselves more digitally capable and information literate than they actually are (see Figure 6). In this era of digital media, parents, teachers, and librarians are not automatically considered natural authorities or experts when it comes to computer or web issues.

[8] Palfrey & Gasser, 2008, p. 244.

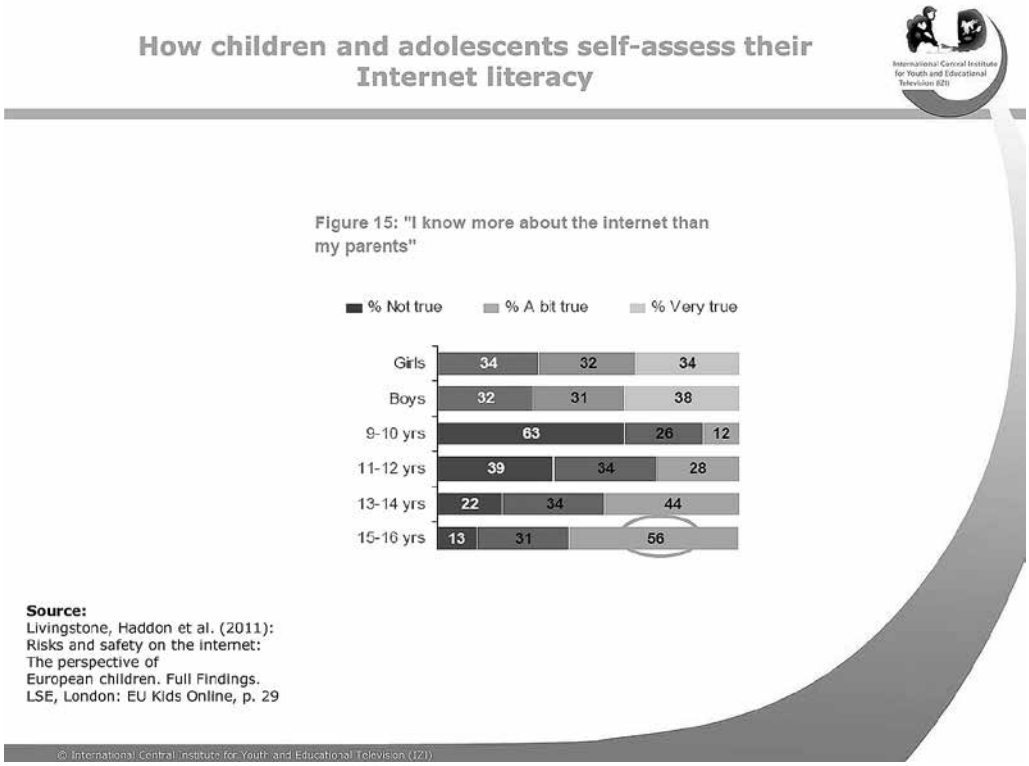


Figure 6. "Natural born" Web experts

They are asking questions – just not to us. Starting points for promoting MIL

Against this background, we have to face a widening gap between what we as information professionals consider high quality online information resources and what digital natives are looking for to handle their information needs in schools or universities. While information professionals continue to take pride in offering an increasing number of online resources with even greater content, our customer group actively looks for strategies on how to reduce the search options. Metaphorically speaking, as they almost drown in the 21st century tsunami of information, most digital natives seem to look for surfboards with which they hope to ride on the huge waves of information threatening to crash over their heads. To them, the container ships that librarians provide, fully loaded with repositories or databases to help navigate the ocean of information, appear neither attractive nor very helpful.

We also have to take into account a widening gap between the learning culture of educational institutions and the information culture of young people. Considering the relevant results of youth media research and focusing on the

ways in which youth use information (e.g. searching and using information "just in time" or preferring multitasking and a simultaneous, non-linear access to multiple sources) may offer us clues about how we might redesign appropriate information services for this user group. In addition, in our daily work we need to acknowledge that we are dealing with a media generation who are intuitive visual communicators and who prefer inductive discovery.

Therefore, understanding the media worlds of digital natives and their media behaviour is not only crucial for reaching members of this media generation, it is also essential for professional strategies related to successful promotion of media and information literacy (see Figure 7). In a nutshell, we will never reach this target group without understanding the mediascapes they inhabit and the motives of their media use. Up to now, our work has been based on the assumption that our target group of young users has a sophisticated understanding of information retrieval in databases or repositories and a strong motivation to seek information until they find what they are looking for. But in the light of the research findings cited above, this seems to be an illusion we have become accustomed to believing.

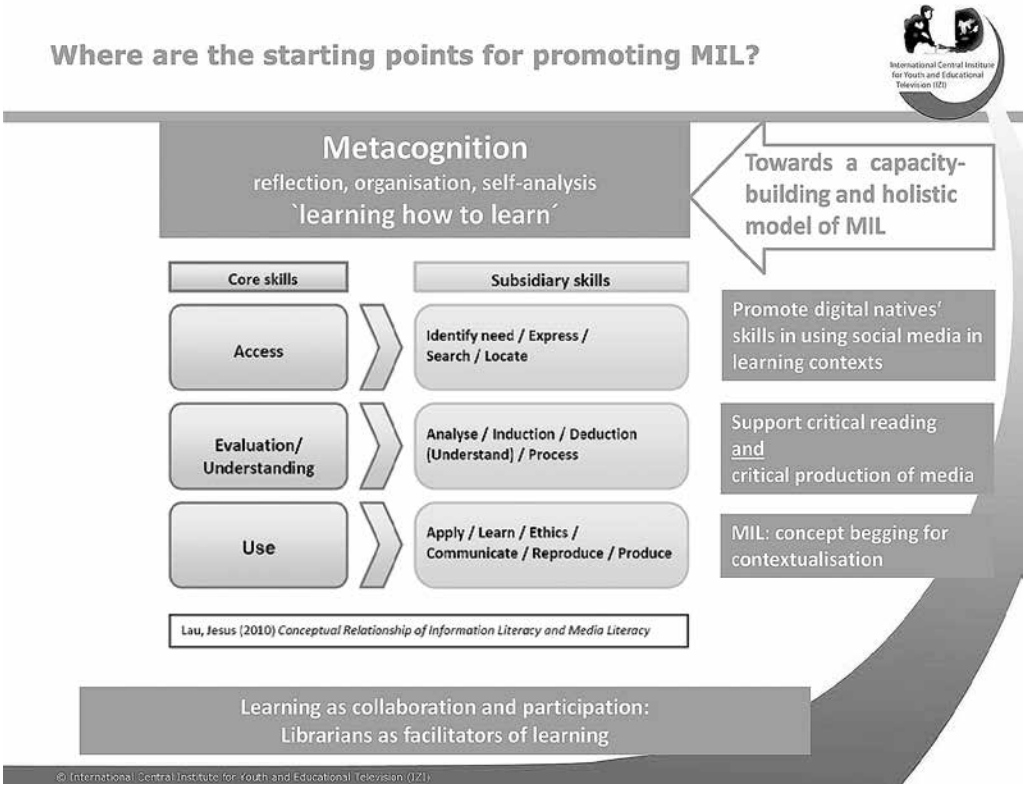


Figure 7. In a nutshell: starting points for promoting MIL

Consequently, we should focus on a capacity-building and holistic model of MIL: our main mission should be to empower the metacognition and MIL skills of digital natives embedded in the context of their information and learning culture. Promising starting points to achieve this may be social media in learning contexts or the proactive support of critical dimensions of MIL (e.g. critical evaluation of information resources or promoting skills for producing Web 2.0 applications such as wikis or blogs). In general, we must dramatically increase the responsiveness to their information needs. The development of proactive strategies in order to 'hook them once we've got them to look' can prevent our being left behind as irrelevant partners or experts in the learning process.

Demystifying this media generation in the light of current research results might be a good start for MIL activities. By doing this, we may come to the conclusion of Palfrey & Gasser: "There are no hard data to suggest that Digital Natives are smarter than anyone who came before them. Neither is there any sign that kids are dumber, or in any way less promising, than previous generations of kids. Digital Natives are doing the same things their parents did with information, just in different ways".

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Promoting Media and Information Literacy in Hong Kong: A Network Model Strategy

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Introduction

Media literacy has developed well in Hong Kong over the past 15 years. As Hong Kong enters the knowledge society and marches into the Web 3.0 era, some have advocated that media education in the city should be extended to media and information literacy education. Over the past two years, MIL has begun to gather momentum.

Hong Kong is unique in its development of media education. Over the past decade, the media literacy movement has been a multisource, voluntary grassroots movement that has expanded like a network; as media education evolves, the network expands too. Hence, this paper proposes a network model strategy to conceptualize the development of MIL education in Asia's World City.

This paper has three objectives: 1) to examine why MIL is important to Hong Kong; 2) to explore how local advocates are following a network model to promote MIL; and 3) to discuss the components of MIL and the expected outcomes of MIL in the Hong Kong/Chinese context.

Changing concept of literacy

Literacy has a close relationship with communication technologies (Lee, 1999a). Just as literacy requires the alphabet and phonetic technologies, the promotion of literacy requires print technology. Literacy has been defined as both a technological phenomenon and the ability to master the dominant mode of communication (Casaregola, 1988). A literate person should be able to communicate effectively with other members of a society in the dominant mode of communication and make sense of the world around them. Hence, changes in communication technology will lead to changing concepts of literacy.

Communication technologies went through revolutionary changes in the 1990s, the most significant involving the convergence of computer and media technologies. Communication scholars called it the "infomedia revolution"

(Koelsch, 1995). Infomedia technologies such as interactive communication systems, digital TV, audio-visual players and electronic newspapers began to play important roles in people's lives. In the information age, television has given way to the Internet as the most influential medium (Slevin, 2000; Straubhaar & LaRose, 1996). Mantovani (1996) argues that in the new communication environment, members of a society communicate in a very different way; a literate person needs to learn not only the traditional language, but also multimedia and digital languages. By the end of the 1990s, there was already a call for expanding the concept of media literacy to "infomedia literacy" (Lee, 1999a). In Hong Kong, media education advocates began arguing that as the line between media and information technologies became blurred, a new concept of infomedia literacy should be introduced.

As the Internet advanced further, a number of new literary concepts were put forward, including ICT literacy, digital literacy, Internet literacy, new media literacy, multiliteracies, multimodal literacy and information literacy. Scholars around the world acknowledge that "we need a much broader reconceptualization of what we mean by literacy in a world that is increasingly dominated by electronic/digital media" (Buckingham, 2007, p. 53). While Livingstone (2004) discusses media literacy and the challenge of new information and communication technologies, Jenkins and his colleagues (2006) propose that a new form of literacy is needed for young people to confront the challenges of participatory culture.

Digital technologies blur the lines of literacy. There is a common understanding that the increasing convergence of contemporary media means that people need to acquire the skills and competencies of multiple literacies (Buckingham, 2007; Fahser-Herro & Steinkuehler, 2009; Johnson, 2006; Luke, 2007, Paul, 2006; Westby, 2010). In fact, a group of scholars who met in Britain in the early 1990s coined the term "multiliteracies" (New London Group, 1996), arguing that the Net Generation needs to become skilled in many forms of communication. Following this line of thinking, Kress' (2003) concept of multimodality is often cited in academic works. Kress argues that educators need to discover how young people communicate in all modes, including visual, audio, gestural and spatial modes in addition to oral and written text modes.

However, these authors and scholars did not systematically outline the detailed components of the new literacy concept or develop a measurement mechanism. Rather, that initiative was taken by UNESCO, which since 2003 has made an effort to develop MIL indicators for its Member States (UNESCO, 2011; Wilson, Grizzle, Tuazon, Akyempong & Cheung, 2011). Media literacy and information literacy are conventionally seen as separate fields. UNESCO attempts to bring these two fields together as a combined set of competencies necessary for modern life in the digital world. Experts at UNESCO explore the conceptual relationship between information literacy and media literacy (Lau, 2010). They

are also building the architectural components of the MIL indicators (Moeller, Joseph, Lau & Carbo, 2010). Hong Kong media educators are well aware of these developments. They are joining the UNESCO MIL project team to explore this new literacy concept and developing strategies to spread the idea of MIL.

Why is MIL needed in Hong Kong?

Hong Kong is a media-saturated, technologically advanced city. The CEO of Yahoo! Hong Kong predicts that Hong Kong will enter the Web 3.0 era in four years. After the handover of sovereignty to China in 1997, the city has focused on developing its knowledge economy and transforming itself from an industrial society into a knowledge society. Educating competent knowledge workers is one of the major tasks of Hong Kong educators, and cultivating young people's MIL has become an imperative.

Statistics show that Hong Kong is a regional media and communication hub (GIS, 2011). Although it is a small city, it publishes 19 daily newspapers and a total of 645 periodicals. On average, everyone in Hong Kong aged 12 to 64 reads at least 1.5 newspapers a day in print or online. More than 100 international media organizations are based in Hong Kong, including the Financial Times, the Wall Street Journal, the International Herald Tribune, the Economist, BusinessWeek, CNN, Time-Warner, AFP, Bloomberg and Thomson-Reuters. About 200 satellite TV stations are uplinked from 17 licensees. Due to the importance of digital convergence, the city has been working hard to upgrade its telecommunications infrastructure for many years. Hong Kong is now home to the world's first fully digitalized telecoms network. The broadband penetration rate is 85% for households and 100% for commercial premises, while the mobile phone penetration rate is already over 200%. There are 9,100 public Wi-Fi hotspots in Hong Kong, making it a world leader in the provision of public Wi-Fi infrastructure. There is a need to upgrade the regulatory framework on digital convergence, and a communications authority was established in early 2011 to regulate related developments.

As Chief Executive of Hong Kong Donald Tsang has stated, "We are known the world over as a dynamic business city – and business understands very deeply that timely, untainted and varied information is needed to make rational and educated business decisions" (GIS, 2011, p. 2). Financial services, trade and logistics, business services and tourism are major industries in Hong Kong, forming the backbone of the local knowledge economy. In the government's view, information has always been a currency, and it is important to keep that currency flowing rapidly and freely. Hence, safeguarding freedom of speech and cultivating media- and information-literate citizens are regarded as vital to Hong Kong's development.

Hong Kong is going to further develop its knowledge economy in the coming years. It has already formulated strategies for striding into six business areas with good potential for growth, including innovation and technology, education services, medical services, environmental technology and industries, testing and certification and creative industries. According to Tsang, "Innovation and technology, creative industries and education services in particular require the free flow of news, ideas and information to flourish" (GIS, 2011, p. 5). The government will certainly make further improvements to media and information systems in the territory as well as train media- and information-literate human resources.

Educational reform has been carried out in local schools since 2009. The new school curriculum puts emphasis on preparing students to become knowledge workers for the emerging knowledge society. The motto of the educational reform, "to learn how to learn," stresses the importance of cultivating young people as active learners rather than passive knowledge receivers. Nine generic skills are highlighted, including information technology, communication, critical thinking, creative, coordination, problem-solving, self-management, numeracy and study skills (Lee and Mok, 2005). Local media education advocates suggest that media literacy training can contribute to all of these generic skills. Local educators recognize that knowledge workers are the vital foundation of a knowledge society, creating "value through their ideas, analyses, judgment, design and innovations" (Ariffin, 2003, p. 1). They are specialists with high levels of creativity, and they constantly adapt to change and innovation. It is necessary for knowledge workers to be good at critical thinking and independent problem solving. In particular, they must be ICT literate. Due to the importance of knowledge creation and management in this new society, for knowledge workers, media and information literacy is one of the most important 21st century skills.

While Hong Kong is transforming into a knowledge society, it is also moving towards the Web 3.0 era. According to local experts, Web 3.0 will be a read-write-execute Web (Tse and Kwan, 2008). Highly influential, the Web will serve people more effectively while also affecting their lives in every aspect. Web 3.0 has several characteristics, including networking computing, a worldwide database, intelligent Web for intelligent applications and wireless access. In the Web 3.0 era, wireless access through smart phones, iPads and tablets will be very common and most of the people in Hong Kong will be connected. The computer will understand the meaning of people's requests and provide search results and solutions to problems in a more accurate and efficient way. Through artificial intelligence, computers will analyze all of our online activities, raising privacy concerns. Yahoo! Hong Kong has already prepared for the provision of the Web 3.0 search service and the "push" advertising strategy to Netizens. To protect privacy, make constructive use of the Web and handle the power of the Internet, Hong Kong citizens need not only media literacy but also MIL.

As mentioned above, Hong Kong media educators are well aware that literacy has a close relationship with communication technology. As Hong Kong enters the new millennium, information technology is merging rapidly with communication technology. The definition of a literate person may need to change in the digital era, and literacy training for young people should be re-examined accordingly. Traditional literacy, media literacy, information literacy or ICT literacy alone are not enough to allow young people to cope with the rapidly changing media and information environment. In order to become critical producers and consumers as well as competent knowledge workers, young people have to receive multiliteracy training. MIL education fits the needs of Hong Kong society very well.

In the past, Hong Kong has played a significant role in bridging China with the world, contributing to the country's business, educational and cultural development in various ways. China has become a rising economic entity in recent years. If Hong Kong wants to maintain its significant role in national development, it has to strengthen its information capability so that it can move into the knowledge society smoothly along with other cities in China.

The Network model

A bottom-up social movement, media education emerged in Hong Kong in the 1980s and developed rapidly after the handover to China in 1997. Compared with other countries, its development is unique. In countries such as Israel or Argentina, the educational authority conducts media education as a top-down model. In other countries such as Taiwan, the Philippines and Japan, media education is promoted by one or two enthusiastic organizations and its development pattern resembles a "spoke wheel," with media education programmes generated by one or a few powerful centres. However, media education in Hong Kong takes another form: it is "a multi-source voluntary grassroots movement and it expands more like a network" (Lee, 2003, p. 150).

The media education net

Media education initiatives come from different sectors of Hong Kong society. Institutions involved in media education include schools, universities, youth organizations, media concern groups, religious organizations and media companies. All interested parties interact with each other and form an informal network of media education that spreads out like a net. Each organization serves as one node, and organizations that are richer in media education experience or resources become the network hubs (Lee, 2002).

Over the past two decades, media education has been well established in Hong Kong, and the network keeps on growing. While Hong Kong has entered

the Web 2.0 age, media education has shifted from media education 1.0 to media education 2.0, cultivating both critical media consumers and responsible producers (i.e., prosumers). As media and information technologies develop further, media educators have recognized the need to extend the media literacy concept to MIL.

Strategic development of MIL

The most natural and efficient way to promote MIL is to use the existing media literacy network to launch new initiatives. Hence, advocates actually use hubs to spread the idea and practice of MIL. To examine how the development of MIL in Hong Kong takes the form of a network pattern, we analyse the following aspects (see Figure 1):

1. the impetus to the network (social forces and agency efforts) and the launching of the MIL net;
2. the configuration of the network (the nature of the participating organizations);
3. the hubs of the network (leadership and support);
4. the communication of the network (the links among participating organizations and the sharing of resources); and
5. the expansion of the network.

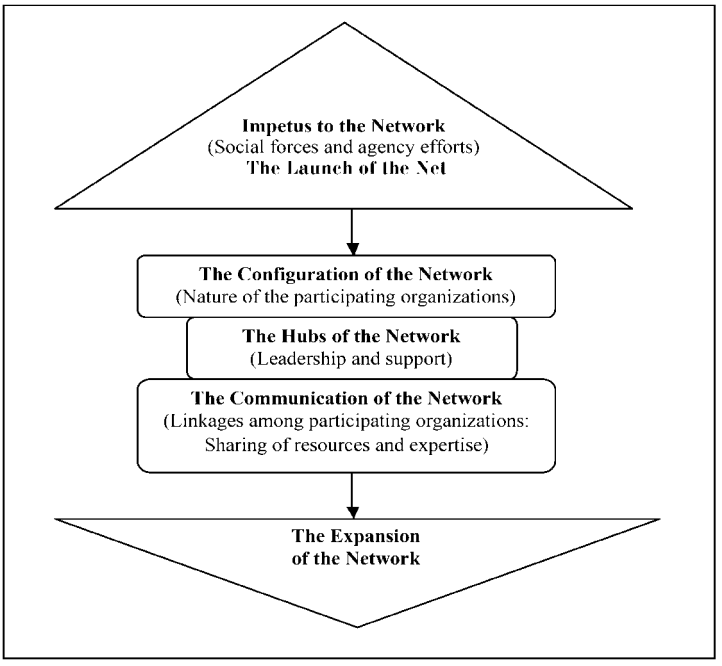

Figure 1. The Network model

First, the major impetus to the development of MIL in Hong Kong is the convergence of media and computer technologies, or what Koelsch (1995) calls the "infomedia revolution." As mentioned above, by the late 1990s media literacy educators in the city had already put forward the new concept of "infomedia literacy," claiming it fundamental education for young people in the new information age. Table 1 shows that a number of published journal articles and conference papers argue that the new millennium demands a new concept of literacy (Lee, 2000; 1999a; 1999b; 1998a; 1998b & 1997).

Table 1. Publications on "Infomedia Literacy" by Hong Kong media educators

Year	Paper Title	Type	Region of Publication	Language
2000	The impact of the "infomedia revolution" on the youth in Hong Kong: Information explosion and information confusion. *Journal of Youth Studies* 3(1): 17-25.	Journal Article	Hong Kong	Chinese
1999	Infomedia literacy: An educational basic for the young people in the new information age. *Information, Communication and Society* 2(2): 134-155.	Journal Article	International	English
1999	Promoting "infomedia literacy." *Modern Communication* 101: 17-23.	Journal Article	China	Chinese
1998	The curriculum of infomedia literacy: Teaching new literacy in a digital world. Paper presented at the Annual Conference of the Hong Kong Education Research Association, Hong Kong, November 21-22.	Conference Paper	Hong Kong	Chinese
1998	Promoting "infomedia literacy": A new task for Hong Kong in the world of technology convergence. Paper presented at the Conference on Theoretical Framework and Scope of Practical Application in Chinese Education Technology Towards the 21st Century, Shenzhen, China, December 14-16.	Conference Paper	China	Chinese

1997	Infomedia literacy: Meeting the technological challenge of the 21st century. Paper presented at the 3rd Conference of the David C. Lam Institute for East-West Studies, Hong Kong, November 17-19.	Conference Paper	Hong Kong	Chinese

A 21st century youth must be able to critically and wisely handle media messages and information coming from all sources. A curriculum model of infomedia literacy was also proposed to promote infomedia literacy in schools, including components such as critical analysis, efficient searching, critical selection of information, knowledge of multimedia production and so on. Further, media educators in Hong Kong began to discuss the idea of combining media literacy and information literacy.

In the early 2000s, as Hong Kong started to move into the knowledge society and educational reform was underway, local media literacy practitioners realized the need to extend the concept of media literacy to media and information literacy. From 2000 to 2002, a Media and Information Literacy Education Programme (MILE) was conducted by Breakthrough, a well-known youth organization in Hong Kong. At a cost of HK$6 million, the two-year programme was supported by the Quality Education Fund. It focused on the importance of active learning through media and information technologies and placed emphasis on cultivating young people's generic skills. Targeting students and teachers, but also involving parents and youth workers, the project comprised a wide range of media education programmes and also operated a media resource centre, established three main teacher-training programmes and designed an evaluation scale (Breakthrough, 2001). Breakthrough regards media and information literacy as a significant quality necessary for young leaders in the 21st century. The MILE projects included (Breakthrough, 2003):

1. A Media and Information Literacy Network – an Internet platform for MILE (http://mile.bt4u.com) that operated from September 2001 to December 2002 and was divided into different zones such as MILE resource centre, MILE promotion corner, discussion zone, game zone and activities announcement corner;
2. Media and information textbook series – the textbooks highlighted the skills of media and information searching, evaluation, organization and presentation;
3. Camp and workshop series;
4. Campus radio community programme;

5. Magazine publication;
6. A portfolio VCD;
7. Resource centres; and
8. Train the trainer programmes.

The MILE initiative was carried out effectively, with approximately 4,000 participants comprising 3,005 students, 143 parents and 795 teachers. A number of local students and teachers were already trained to be media and information literate.

In recent years, UNESCO has put a lot of efforts into developing the MIL concept. Hong Kong media literacy scholars have joined the UNESCO working teams and brought back more updated MIL information to local media literacy practitioners, readying the movement for a real start. The MIL net is opening up and stretching.

Second, a large number of organizations could be included in the future MIL network. Apart from the existing media literacy organizations, university libraries, public libraries, the Hong Kong Film Archive and the coming news museum will also become nodes in the MIL net. At the moment, the libraries of all eight universities in Hong Kong have already been linked together to share their resources. Users can access Hong Kong Academic Library Link for information and for borrowing books. All 61 public libraries in Hong Kong have also been linked up. Librarians are working hard to train up young people's information literacy. It is not difficult to combine the media network with the library network and promote MIL. In addition, the future Hong Kong news museum will integrate media, archive information and ICT and will be a very useful platform to promote MIL among Hong Kong citizens. Highly diverse and community based, the MIL net is in the making.

Third, several hubs in the net are advocating and promoting MIL in Hong Kong (see Figure 2). The first is the Hong Kong Association of Media Education (HKAME). Its chairman, Dr. C. K. Cheung, is one of the authors of the UNESCO Media and Information Literacy Curriculum for Teachers (Wilson, Grizzle, Tuazon, Akyempong, Cheung, 2011). The vice-chairperson, the author of this paper, has joined the UNESCO working team on the MIL indicators project, co-writing a paper entitled "Theoretical and Conceptual Framework for Media and Information Literacy Indictors." The second hub is the Institute for Journalism and Society at the Hong Kong Baptist University (HKBU), which has already launched its research on MIL and will use its website to promote the new concept of MIL in Hong Kong as well as the Greater China region. A university-wide general education course entitled "Media Studies in a Changing Society" has just been developed at HKBU and MIL is included as an important

part of the curriculum. The third hub is Shak Chung Shan Memorial Catholic Primary School, a pioneer in the area of MIL education. During 2010 and 2011, it launched an innovative curriculum entitled "21st Century Skills Learning: Creative Information Education." The curriculum, which integrated media literacy training with information technology education, has been institutionalized and the experience of it has been shared with other schools. Further, Hong Kong Christian Service, a non-government organization famous for its primary media education programmes over the past decade, is interested in MIL and is now applying funding to launch MIL programmes with its partnership schools. As one can see, these key organizations have already stepped forward and taken the initiative to advocate the MIL campaign in Hong Kong.

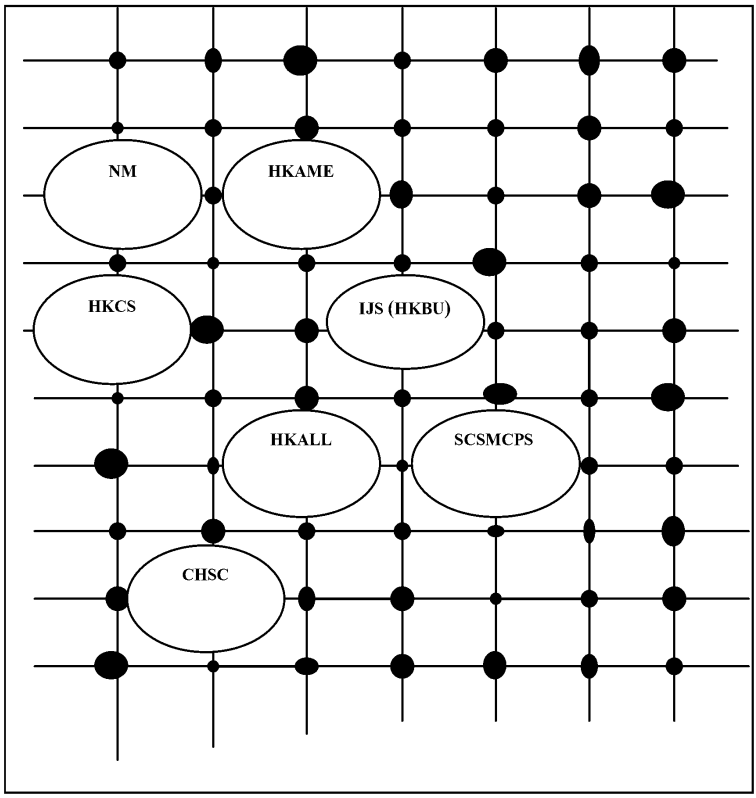

Figure 2. The proposed MIL Net

Hubs of the Net: HKAME (Hong Kong Association of Media Education), IJS (Institute for Journalism and Society, HKBU), HKALL (Hong Kong Academic Library Link), NM (Future News Museum), SCSMCPS (Shak Chung Shan Memorial Catholic Primary School), CHSC (Committee on Home-School Co-operation, Education Bureau), HKCS (Hong Kong Christian Service)

Fourth, efficient communication among network members is essential. The strength of a network model is its link among the nodes (individuals or organizations participating in the MIL movement). These nodes connect, support, exchange and cooperate with one another. In particular, the hubs of the net play a significant leadership role. They share their experience, resources, vision and expertise with other interested individuals and organizations. In addition, the personal networking of MIL advocates will also contribute greatly to the launch of the movement. Many MIL activists have several identities. For example, the vice-chairperson of the HKAME is the associate director of the Institute for Journalism and Society at HKBU, and the former team leader of the MILE programme is also a member of the HKAME. The multiple roles of these advocates facilitate cross-institution cooperation and resource sharing.

Fifth, the MIL net is still in a very primitive form in Hong Kong, though it is expected to expand from the media literacy sector as well as the library institution to the IT arena. The MIL curriculum will be introduced from universities to all levels of schooling. MIL education is unlikely to be limited to schools and organizations; it will also penetrate into families as "family MIL education." Local advocates are lobbying the members of the Hong Kong SAR government Committee on Home-School Co-operation at the Education Bureau to promote MIL. The development of MIL will also go across the border to mainland China. A MIL research fund was set up at the Institute of Media Literacy Studies at Zhejiang University of Media and Communication after a researcher at the institute consulted a Hong Kong MIL advocate. Further, the approach of MIL will most likely develop from critical thinking to knowledge building. Compared with the current media literacy network, the future MIL network will be larger in scale and more sophisticated in terms of curriculum content.

MIL in the Hong Kong/Chinese context

In the UNESCO document "Towards Media and Information Literacy Indicators" (Moeller et al., 2011), MIL is defined as the ability to access, evaluate/understand and use media and information in various forms in a critical and effective way. While the MIL concept in Hong Kong is in line with this notion, due to its special sociocultural background, Hong Kong has its own priority in terms of core MIL components and emphasis regarding MIL competence skills.

Table 2 outlines the core components and key MIL competences proposed by advocates in Hong Kong. Of course, as the MIL concept is new to the city its definition and configuration are still subject to revision.

Table 2. MIL competences in the HK/Chinese context

Access/Awareness (How to find it)	1. Access media and information effectively and efficiently. 2. Critical awareness of the impacts of media and information on individuals and society.
Analysis/Understanding/ Organization (How to make sense of it and organize it)	3. Understand the nature, functions and operations of the media and information institutions; understand particularly the role of the media and information in democracy and the broader context in which media and information are produced. 4. Understand how different media and information providers codify reality in different ways. 5. Critically analyse and evaluate various kinds of media messages and information. 6. Organize and synthesize media and information.
Use/Creation (How to communicate, use it and create it)	7. Communicate effectively and safely with others. 8. Ethical use of media and information. 9. Aesthetic appreciation of media and information. 10. Learn through media and information to understand the world. 11. Wisely apply what has been learned from the media and information to everyday life. 12. Creative expression and production of media and information. 13. Monitor media and information content and influence the development of media and information institutions.

Referring to the overall conceptual structure, MIL in Hong Kong puts more emphasis on the second component of "analysis/understanding/organization" and the third component of "use/creation." Hong Kong is a media- and information-saturated city that enjoys a free flow of information. Because digital divides are not a big problem, access to media and information is not quite a concern. Rather, Hong Kong is an international city with various political forces operating there. Meanwhile, the media are also highly market driven. Given the possible political and market manipulation in the media and information industry, critical evaluation of media and information becomes essential. Hong Kong is well settled in the Web 2.0 era and media education has already shifted from level 1.0 to level 2.0. Nurturing prosumers and guiding them to produce constructive media and information are core concerns of MIL education. Hence, the "use/creation" component is considered particularly important.

In terms of MIL competence skills, Hong Kong MIL is likely to pay special attention to the awareness of the impact of media and information as well as critical analysis of media and information. Hong Kong is run by an independent administration under the political mechanism of "one country, two systems." The region is part of China, but it enjoys freedom of speech and a certain degree of democracy. Hong Kong citizens are striving for critical autonomy and eager to search for their own cultural identity. They need MIL to guide them to consume media messages and information wisely and then make independent judgments.

In addition, Hong Kong is an international business city attempting to maintain its global competiveness, and China is trying hard to seek economic success. Hence, learning through media and information to understand the world and wisely applying what has been learned to everyday life and work are regarded as essential competences. The media and information environment in Hong Kong has not been very desirable in recent years. Market-driven journalism and political penetration are prevalent in the media and information industry. Hence, knowing how to monitor media and information content as well as how to influence the development of media and information institutions have become tasks for active citizens. This may be a unique characteristic of the MIL competence skill of Hong Kong's people.

This paper proposes that the MIL education movement in Hong Kong is going to aim at achieving the following outcomes (see Table 3).

Table 3. Expected outcomes of promoting Media and Information Literacy (MIL) in Hong Kong

Media- and Information-Literate Hong Kong Citizens	
Personal Level	Living: ▪ Critical and reflective autonomy ▪ Responsible media and information use ▪ Positive life: - personal growth (lifelong learning) - health awareness (obesity, body shape, tobacco, alcohol, drugs, violence) - relationship building (self, friends, family) ▪ Aesthetic appreciation and creative expression: - media fun - good taste
	Work: ▪ Competent and creative knowledge worker: - Knowledge building - Knowledge management
Societal Level	▪ Active and participatory citizenship (develop democracy) ▪ Public sphere enhancement (monitor and improve media and information systems) ▪ Social harmony (build inclusive, pluralistic and equitable community) ▪ Vivid knowledge economy (transform economic structure)
Global Level	▪ Cultural democracy ▪ Global participation

1. Personal level: Media- and information-literate Hong Kong citizens are expected to achieve critical and reflective autonomy, gain personal growth, learn aesthetic appreciation and creative expression, be responsible for media and information use and become competent knowledge workers in the Greater China Region.

2. Societal level: It is hoped that Hong Kong citizens can become active, enhance the public sphere and engage in building an inclusive, pluralistic, equitable and participatory Chinese knowledge society. Hong Kong Chinese are also interested in building a harmonious society in which everybody respects and cares for one another, which is the goal of Confucianism.
3. Global level: As we are now living in a global society, it is important for MIL to contribute to cultural democracy and global participation.

The challenge ahead

The MIL movement in Hong Kong has just started. However, advocates have already developed a blueprint for MIL development in the city. It is expected that the development will continue to take the form of a networking pattern and grow together with technological advancement.

The strength of the network model strategy is to encourage mutual support among the participating organizations as well as the sharing of innovative ideas and resources. However, as the MIL network is built on the current media literacy network and most of the MIL advocates in Hong Kong are media literacy practitioners, they need more input from the information literacy discipline. To fully integrate both media literacy and information literacy, it is necessary to motivate more information literacy experts and ICT experts to join the network and participate in the MIL promotion campaign. That is the challenge ahead.

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MIL in Knowledge Societies: Capacity Building, Tools and Resources

Public Policies on Media and Information Literacy and Education in Latin America: Overview and Proposals

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1. Public education policies in Knowledge Society: trends in Latin America

What are the general characteristics of current public policies for Media and Information Literacy (MIL) in Latin America Knowledge Societies? What are their priorities? How do they respond to Latin American citizens' needs? This paper briefly reviews state-of-the-art public policies and strategies in this area in Latin America, using desk research methodology. The selected case studies are Argentina, Brazil, Chile, Colombia, Mexico, Peru, and Uruguay. Identified tendencies in the diverse models are then compared. Based on these comparisons, the authors suggest proposals to be considered in the implementation of public policies for MIL in Latin America Knowledge Societies.

Countries were chosen as case studies based on their position in the Internet Penetration Index (Internet World Stats, 2012), as well as other reasons. Those with the highest indicies in the region were Argentina (67%), Chile (59%), Uruguay (56%), and Colombia (56%). Although Brazil (39%) and Mexico (37%) do not have the highest indicies in relative terms, they do in absolute terms as they are the region's largest and most populated countries: of the 40% Internet penetration in Latin America and the Caribbean (LAC), 30% corresponds to Brazil and 16% to Mexico. While not among the highest, Peru (34%) was also included as it was one of the first LAC countries to implement initiatives towards MIL and e-inclusion, which were later replicated in other countries.

The emergent Knowledge Societies form a virtuous circle, in which the progress of knowledge and technological innovations, mutually determined, generate further knowledge and technological innovations in the medium- and long-run. As a consequence, knowledge production and knowledge-based

social, economic and political practices undergo a considerable acceleration (UNESCO, 2005). Nevertheless, information and communication technologies (ICT) tools are a necessary but not sufficient component for developing Information Societies.

Issues concerning information and knowledge are related to other national strategies. Their transdisciplinary nature makes them transversal to other subjects (e-government, e-health, education, security, etc.), as well as to a number of social agents: government, private sector, universities, NGOs. Consequently, Knowledge Society issues are also at the base of transformations within the economic and social organizations of countries that implement National Information Society Policies – NISPs (Finquelievich et al., 2009).

Latin America and the Caribbean (LAC) is an up-to-date region concerning NISPs. No country lacks a National Digital Agenda; some LAC countries (Chile, México, Uruguay) are working on second generation NISPs (Finquelievich et al., 2009). In the case of MIL, governments face a series of urgent needs concerning the inclusion of teachers and students in the Information Society via physical access to computers and connectivity, the training of teachers for effective use of ICTs in schools, and qualifying human resources to provide access to the new labour market. In most countries, the responsible agent for meeting these needs is the State, both as a technology provider and as a generator of educational strategies to use ICTs.

The approaches through which diverse LAC countries face NISPs focused on education and MIL vary according their economic trends, existing educational systems, links between education and Science, Technology and Innovation systems, identified needs, and, overall, ways in which each country stands or wishes to stand in Knowledge Society.

2. The history of digital literacy policies in Latin America

UNESCO (2002) states: “Literacy goes beyond reading and writing; it also consists of knowing how to communicate in society. Literacy includes practices and social relations, including knowledge, language and culture. Literacy understood as the use of written communication, finds its place in our lives alongside other ways of communication. Indeed, literacy itself takes many modalities: print, computer screen, television. Those who use literacy, consider it as something already given, but those who cannot use it, are excluded from communication in today’s world.”

Latin American countries have realized the need to create public policies for digital inclusion of its citizens. As recalled by Silvera (2005), among the guiding principles adopted by the signatories of the “Bavaro Declaration”, a result of the

regional ministerial conference held in January 2003 as a preparatory step for the World Summit on the Information Society, are the following:

- "(...) Emphasize the education of key users of information technology and communication: teachers, civil servants, doctors, nurses, community leaders, among others. Incentives should be established to encourage adaptation to new ways of communication and interaction. It would be convenient for countries who strive to minimize the common problem of "skills mismatch" by actively seeking suitable professional profiles and constant updating of textbooks."
- "The social and economic progress of countries and the welfare of people and communities should play a central place in activities to build an information society. The use and benefits of ICT are essential to meet the needs of individuals, communities and society in general."

UNESCO's "Regional Education Project for Latin America and the Caribbean" (PRELAC) is based on similar criteria and aims to stimulate significant changes in public policy to enforce the proposed "Education for All" in order to meet the demands of human development in the region in the 21st century. This document discusses the results of the efforts made by UNESCO in this area over the past 20 years and states that according to the latest information, there is a significant body of outstanding issues or deficiencies that affect education in the region (Silvera, 2005).

3. MIL governmental programmes in Latin America

ARGENTINA

In 2010 Argentina developed the National Programme "Conectar Igualdad". Its goal is to achieve information and media literacy for the country's population. This programme is based on two South American precedents: Chile's Centro de Educación y Tecnología, Enlace (Centre for Education and Technology), created in 2005, has reached 95% of the primary schools with computers, of which 75% have broadband connectivity. Enlace is a comprehensive policy which includes school equipment, teacher training, technical assistance to schools, and extension of MIL to the community. Another precedent is Uruguay with Plan Ceibal, a socio-educational project whose main beneficiaries are 1st- to 6th-year students in State primary schools. XO portable computers, designed by the One Laptop per Child (OLPC) project, have been distributed to those students. The programme has allowed the extension of the wireless connectivity network. Both Chile and Uruguay cases are described later in this paper.

"Conectar Igualdad" grants democratic access to technological resources, reaching all public secondary schools in Argentina, both in urban and rural areas. The Programme is developed by the Argentine Republic Ministry of Education, the Social Security National Administration (ANSES), the Ministry for Federal Planning and Public Investment and Services, and the National Executive Cabinet's Head. Its goal is to distribute 3 million netbooks to secondary school students and teachers, special schools, and institutes for teacher training. Until May 2012 the Programme has delivered 1,800,000 notebooks, and trained more than 472,240 teachers with semi-presential courses. In two years the Programme has achieved more than half the proposed target. These computers can be used both at school and at home.

The "Conectar Igualdad" programme is focused not just on the distribution of personal netbooks to teachers and students, but on achieving other major goals as well, namely: the creation of a "technologic floor" that connects servers in order for all schools to have access to the Internet and the creation of internal networks; generation of digital content; and development of a Federal training system for teachers on ICT-use in schools. "Conectar Igualdad" and the "Educ.ar" platform integrate the National Media and Information Literacy Campaign.

Concerning the creation of technological floors, the Ministry for Federal Planning and Public Investment and Services is developing the Programme "Argentina Conectada". Its main goal is to "generate a digital infrastructure and services platform for the government and citizens' connection". One of the Plan's cores is the construction of an optic fiber network that will first reach the areas which are lacking digital infrastructure. Public digital equipment to access ICTs is also being implemented: Nucleus for Access to Knowledge (Núcleos de Acceso al Conocimiento – NAC), and Digital Access Points (Puntos de Acceso Digital – PAD). These initiatives are oriented to provide connectivity in public parks, recreation centres, Community Integration Centres (CIC), Popular Libraries, and to train citizens in informatics skills.

The educational platform "Educ.ar" provides digital resources needed to implement the 1-to-1 model. It works as an assistant for teachers and directors of educational institutions to help them incorporate ICT in their teaching practices. As of May 2012 "Educ.ar" has created 20 thousand pieces of educational content for all the disciplines in secondary school. The interaction between "Educ.ar" and "Conectar Igualdad" is meant to favour networking, encourage the students' production of content, include such content in projects, and finally, edit, articulate and disseminate them.

In Argentina there are other regional and local MIL initiatives which distribute computers to implement the 1-to-1 learning model; some of which have even preceded the "Conectar Igualdad". Some of them are: "Todos los Chicos

en la Red" ("All Kids Online"), and Public Digital Schools, both in San Luis Province; Programme "Joaquín V. Gonzalez", Province of La Rioja; AU Project, Province of Buenos Aires; and Plan Sarmiento in Buenos Aires City. The San Luis Province is a pioneer case in the implementation of connectivity and MIL policies, as well as in the training of human resources for the ICT labour market. In 2008 the Province's Government launched the Digital San Luis Plan, meant to implement MIL and e-inclusion throughout its territory[1]. At present, Plan San Luis Digital has provided the Province with 95% Internet penetration; 100% of primary school students are included in the 1-to-1 learning system, and 95% of the teachers are trained in ICT use for educational means[2].

These educational policy goals do not stop at MIL and e-inclusion: they are meant also to revalue public education, build a comprehensive digital inclusion policy, and train qualified human resources to work at ICT enterprises which currently have difficulties to hire enough skilled staff.

BRAZIL

Brazil has been a pioneer in Latin America in the development of information society and innovation since the publication of the "Livro Verde" ("Green Book"), from the Programme of Information Society in 2000, which defined the objectives of democratization and universal access to Information Technology, during the government of Fernando Henrique Cardoso (1995–2002). The government of President Luiz Da Silva ("Lula") deepened the path taken earlier, by creating in 2003 the GESAC (Electronic Government Citizen Attendance Service) coordinated by the Ministry of Communications (Department of Infrastructure for Digital Inclusion) and aimed to provide ICT access to at-risk society.

Since 2005 Brazil has become interested in social inclusion programmes of education, through contact with Nicholas Negroponte, founder of the "One Laptop per Child" (OLPC). Since then, two organizations were created: "Fundação de Apoio em Tecnologia da Informação Capacitação" – FACTI ("Foundation to support and educate in Information Technology") and "Financiadora de Estudos e Projetos" – FINEP ("Financing of Studies and Projects") – in charge of adapting the 1-to-1 formula to the specific conditions of the country.

The main objective of the project "One Computer Per Child" (UCA), created in 2009, is the total coverage of primary and secondary schools, about 37 million students, with a total budget of $ 660 million. The Presidency of the Republic in conjunction with the Ministry of Education of Brazil are responsible for carrying out the project, while all the municipalities are in charge of

[1] http://www.chicos.edu.ar/ChicosEnRedasp/paginas/pagina.asp?PaginaCRID=1.

[2] http://www.ulp.edu.ar/ulp/paginas/PrensaULPDetalle.asp?IdiomaId=1&Eje=9&InfoPrensaId=3521.

procurement and distribution of equipment within their appropriate territories. Until now (May 2012) computers have been distributed in 350 schools, 42,680 institutions, 16,939 State institutions, 25,533 municipal schools, 198 UAB poles. The total amount distributed is 350,000 machines; each Ministry of Education decides whether or not students can take the PC to their home. In a pilot project of 300 schools, some difficulties were found related to the technical aspect of the programme, basically multiple and simultaneous wireless access points in a single educational establishment. Therefore, it is planned to equip the schools with intelligent devices to balance access to Internet, as well as provide a variety of devices such as Tablets.

The UCA programme calls for decentralization in the context of a densely populated country and a large land area (8.5 million km^2). For that purpose, it has implemented a system which has four portals to unify values, pedagogies and methodologies across the country:

- The Teacher Site, a virtual space where teachers come together to articulate content, provide training and management tools for learning.
- The International Bank of Learning Objects, a project that provides learning objects, such as simulations for the Sciences, so that teachers can download and modify them according to their specific objectives. There are 12,744 published objects in total.
- The Student Site, for students to have access to digital content, build communities and establish a permanent communication with teachers and peers.
- The Virtual Learning Environment, which aims to include universities as providers of knowledge.

In UCA Trabalho Group (GTUCA) ("UCA Work Group") specialists in the ICT use in education are responsible for assessing, training and research, aiming to transfer knowledge from universities and research centres to public policymakers, and impact assessments in order to enhance strengths and overcome weaknesses of the programme.

The goal of the One Computer Per Child (UCA) programme is: "To be an educational project using technology, digital inclusion and the density of commercial production chain in Brazil"[3]. Along these lines, we propose the inclusion of those social sectors most vulnerable to the network society, educational innovation and improvement in quality of the education system through substantial four lines: Infrastructure, support and coaching; Training; Evaluation; and Research.

[3] http://www.uca.gov.br/institucional/projeto.jsp.

CHILE

Chile has been concerned with connectivity, equipment and use of technology in schools since 1992. Several initiatives were enacted for each school to have one computer connected to the Internet for every 10 students by 2010. Since 2009, the government of President Michelle Bachelet launched the Mobile Computer Laboratories (LMC) inspired by 1-to-1 models, providing computers to students in third and fourth grade of all municipal primary schools, for everyday use and part-time during classes. LMC proposed a netbook for every student in the classroom and another laptop for the teacher. The equipment includes a mobile container that allows the transfer of netbooks into the classroom, storage, security, battery charging equipment, and communication between computers through a local wireless network.

The institution that develops the plan is the Education and Technology Centre Links, under the auspice of the Ministry of Education of Chile, who has equipped 1,500 schools by May 2012. The plan was to reach 250,000 students via 2,000 distributing mobile carts: each cart carrying computers, plugs, and electronic equipment that can be shared by up to four courses. The current coverage is 50,186 students; there is no data on the number of trained teachers yet. With Chile's school enrollment of 3.5 million students, the programme reaches only 7% of students registered in the third and fourth grade of primary school.

The LMC project is not focused on solving the digital gap, as are many of these programmes in Latin America. Its main objective is to ensure ICT-based learning towards PISA skills. It prioritizes educational quality over equality of opportunity. It should be remembered that Chile is one of the Latin American countries with highest Internet penetration (59%), behind Argentina (67%), so many students have computers at home. The pedagogical approach is similar to other countries using 1-to-1 teaching models. Teachers are trained regularly and there is a permanent tutor in each school. Since 2011 teacher training in educational resources and computer support have intensified.

The LMC project and Enlaces is not the only ICT access programme. Full connectivity broadband is expected to be achieved by 2014, and the Ministry of Education is continuously working to improve and create new digital contents for education. Chile also has its educational platform "Educarchile"[4] directly related with Enlaces and LMC. Not only does the portal provide content and communication between teachers, but also has an "emotional support and self-care" section, as well as a specific sector for Innovative Teachers.

[4] http://www.educarchile.cl/.

COLOMBIA

The Ten-Year Education Plan 2006–2016, "Vision 2019" document, and the National Plan of New Information and Communication Technologies are clear signs of Colombia's commitment to modernize education and to position the country closer to the new world order. To achieve its purpose, the agenda raises objectives centered in three main approaches: the community, the productive sector, and the state, in line with the three pillars on which knowledge society is promoted: family and everyday life, new economy and labor and policy in the Knowledge Society.

Specifically, the objectives proposed in the Agenda for Connectivity in the three described approaches are:

- "Community: Encourage the use of information technology to improve the quality of life of the community, offering equal access to educational opportunities, labor, justice, culture, recreation, etc.";
- "Productive Sector: Promote the use of Information and Communication Technology to support growth and increase competitiveness, access to markets for the productive sector and reinforce policies for job creation";
- "Statement: Provide connectivity to the State to facilitate the management of government agencies and support the role of citizen service".

In terms of strategies to achieve these purposes, a benchmark that can be seen in the project is led by the Ministry of National Education called "A que te cojo ratón" ("I'll catch the mouse"), targeted exclusively to teachers from educational institutions, in an attempt to bring teachers to use ICT in their educational work. Moreover, in Bogota strategies such as "Digital Classroom", aimed at promoting digital literacy to levels 1, 2 and 3; the "ICT Programme Massification – ETB", whose main objective is to prioritize initiatives of universal access to the population of levels 1, 2 and 3, were developed by promoting the creation of telecentres or ETB Interactive Websites.

The Government of Colombia is committed to a National ICT Plan 2008–2019 (PNTIC) to make sure that all Colombians become informed and communicate by efficient and productive use of ICTs, to improve social inclusion and increase competitiveness. To achieve this goal, the Plan proposes a set of policies, actions and projects in eight main areas: four transversal (Community; Regulatory; Research, Development and Innovation; Government Online) covering issues and programmes that impact different sectors and society groups, and four vertical (Education; Health; Justice; Competitiveness) relating to programmes that will allow better ownership and use of ICTs in priority sectors for this Plan. The Plan emphasizes three key aspects to be undertaken in the short term, due to potential impacts on the mass of ICT in society: improving

access to infrastructure, assisting the widespread adoption of ICT in SMEs and consolidating the process of government in line. To implement the PNTIC, it will be necessary to establish alliances and collaborations between government, private sector, academia, the scientific community and civil society.

Meanwhile, in 2007 the Ministry of Education started a 1-to-1 pilot programme with the donation of 1,500 Intel computers. The project included teacher training, designing lesson plans and selecting content. Furthermore, activities addressed specifically for parents were developed to complement the project. As pointed out by Gomez Merly, adviser to the Office of Educational Innovation Using New Technology of the Ministry of Education of Colombia, the country's basic interest is to facilitate access to ICT tools by students thereby decreasing the number of students per computer, which is currently 20 children per team with 12 children per computer projected in the coming years. To do this, different scenarios are used, taking into account the diversity of the country, including use of digital dashboards, computer rooms, mobile classrooms, etc.

Since 2008 Colombia has been working on an initiative for teacher training called the "path of ICTs appropriation" which seeks to develop teachers' skills (communicative, collaborative, educational, ethical, technical, technological, managerial). It includes two specific phases: personal appropriation of ICT skills, and professional appropriation which involves the development of competencies for the educational use of these tools.

MÉXICO

A main goal of Mexico's digital agenda (2010–2015) is to reduce the wide digital gap in the ICT access and use, as well as in MIL. According to the 2010 national census, of a total of 112 million inhabitants, 68 million (61% of the population) do not use the Internet. The Internet penetration reaches 37% according to the Internet World Stats (2012)[5]. The main causes of this gap are connectivity's high costs, and the social vulnerability of large sectors of the population. Moreover, there are deep deficiencies in the communication infrastructure as well. Also, a significant sector of the population lives in rural or remote areas, which are marginalized from connectivity.

At present the Secretariat for Communications and Transportation (SCT), the Ministry of Education, and the Ministry for Social Development are implementing three programmes intended to reduce the digital gap and take it to OECD levels in year 2015:

1. Habilidades Digitales para Todos (Digital Skills for All, 2010–2012) addresses primary school student use of ICT in the learning process, and the development of digital skills.

[5] http://www.Internetworldstats.com/stats10.htm.

2. Campaña Nacional de Inclusión Digital Vasconcelos 2.0 (Vaconcelos National Campaign for e-inclusion) is to mobilize young students who are already skilled in ICT use to reduce the digital gap in socially vulnerable adults.
3. Centros Digitales Comunitarios E-méxico (E-Mexico Community Digital Centres, CDC) implements digital community centres in rural areas. E-México has created more than 3200 CDCs throughout the country, where people can have free access to the Internet.

One of the main goals of "Digital Skills for All" is to encourage ICT use among teachers, students, school executives, and parents. The programme's main principle is that the implementation and development of digital resources in the educational system will have deep positive impacts in the communities. In order to achieve this goal, the Programme has created Thematic Classrooms, equipped with a server, 20 connected laptops, and Internet access for secondary school students. Primary schools have received a computer connected to the Internet per each 30 students in 5th and 6th grade[6].

The Vasconcelos Digital Campaign 2.0, developed by the Coordination of Information and Knowledge Society of the Secretariat for Communications and Transportation intends to mobilize between 200 and 300 secondary and university students to teach MIL to 30 million illiterate adult Mexicans throughout the country in 5 years. In exchange, young volunteers will receive professional education and training to undertake future initiatives.

In 2006, more than 10,000 Digital Community Centres were set up throughout Mexican States. Their goal is to provide connectivity, Internet access, and MIL to Mexicans. The projection for year 2012 is 24,000 DCCs, mainly in remote and marginalized communities. Other goals are to promote innovation and develop a higher collaboration between scientific and technological activities through this network.

PERÚ

Beginning in 2008, the General Director of Education Technology at the Peru Ministry of Education has developed the programme "One Laptop per Child" aimed at delivering 600,000 computers to students and teachers of primary schools in rural, extremely poor communities. The programme's main objective is to reduce the huge gap between urban and rural schools, many of them located in remote areas, where one single teacher works with several school courses, lacking educational materials and access to technology.

[6] http://basica.sep.gob.mx/HDT/start.php?act=preguntas.

The Ministry of Education has distributed 513,204 computers and has trained over 5,144 teachers, and plans to extend the programme to secondary schools. The XO model computers provided to students can be taken home to be shared with families and friends, in order to socialize the computers' use and increase their impact on the communities.

There is a second stage of the programme, which seeks to improve the use of computers in urban areas where most people have a PC and can access connection. In this case, schools have several teachers and the use of XO laptops is intended to socialize. The equipment is delivered to each school and not to each student or teacher. For this purpose, Technology Resource Centres were created to share the use of machines and employ other technology resources such as mobile Internet, robotics, etc. Stage Three, implemented in 2011, seeks to extend the application of the high school programme, providing more than 600,000 laptops by the end of 2012. The characteristics of this phase are exactly the same as the second stage, but at secondary school level.

The programme "One laptop per child" is different in Peru from the rest of the other LA countries studied. In the case of Peru, only a third of schools have Internet access, and there are many rural schools which cannot use digital resources for lack of electricity. For this reason, 200,000 solar panels have been distributed to one-teacher schools so they can charge the batteries of computers and access connectivity. Teachers receive a USB device with digital content developed by the Educational portal "Peru educa"[7],so they can simulate navigation and access updated information.

URUGUAY

In Uruguay, the creation of the Agency for E-Government and Information Society (Agencia de Gobierno Electrónico y Sociedad de la Información, AGESIC) in 2005 strengthened NISPs. The main strategic lines of the Uruguay's Digital Agenda (2011–2015) are: Equity and Social Inclusion, Citizen' Participation, Modernization of the State, Impulsing Education, Innovation and Knowledge Generation, Territorial Integration; and International Insertion.

Uruguay was one of South America's pioneer countries in MIL policies, through the implementation of the Plan for Educational Connectivity of Basic Informatics for Online Learning (Plan Ceibal) using the 1-to-1 model. This Plan was launched in 2006 by President Tabaré Vázquez' government. Its goal is to grant educational quality and equality by decreasing the digital gap, both within the country and in relation to other countries, distributing 670,000 laptops to primary and secondary school teachers and students. Plan Ceibal's organization and development involves the Ministry for Education and Culture (MEC), the National

[7] http://www.perueduca.edu.pe/web/visitante/inicio.

Administration of Telecommunications (Antel), the National Administration of Public Education (ANEP), and Uruguay's Technological Laboratory (LATU).

Plan Ceibal has three main components: pedagogical content, social and digital inclusion, and technological aspects, focused on the distribution of personal laptops. The Plan was developed in successive phases. It started in the Florida Department[8] (2007), reached all the Departments by year 2008, and continued to Montevideo and its metropolitan area (2009), covering 100% of primary schools. In 2010 Plan Ceibal provided computers and training to private educational institutions, and to the basic cycle of secondary schools (from 1st to 4th year). By May 2012 the Plan delivered 450,000 laptops, 67% of the initial number, and has trained 26,000 teachers. The informatic equipment is provided with software and an operational system specifically designed for children (XO). Internet is accessed by wireless connectivity. A number of connected schools are equipped with antennas which in turn provide connectivity to nearby schools. Besides Plan Ceibal, Uruguay has implemented the Educational portal "Uruguay Educa"[9], a pedagogical initiative providing educational resources, blogs, forums to register learning experiences, contests, and technical support among other applications. Its goal is to encourage users to upload their own content to the platform. The Universidad de la República has implemented the project "Flor de Ceibo" in order to generate knowledge for Plan Ceibal, training students who work in research, teaching, interdisciplinary work, etc.

4. Common traits and differences

NISPs for MIL in Latin America have a common root: the need to reduce or abolish the digital gap, both within the countries, and in their relation to developed countries, as well as to raise their e-inclusion, granting democratic access to ICT to all the citizens. Most of these policies are integrated into the countries' Digital Agendas, and were first conceived between 2005 and 2010. This data suggests that by the Century's early second decade, a large proportion of LAC population is still digitally illiterate.

This is the reason why all the programmes described above explain their goals about MIL related to e-inclusion:

> *"We search to promote digital inclusion, aiming to diminish the digital gap, both in relation to other countries as among the Uruguayan citizens, in order to enable a larger and better access to education and culture"*
>
> (Plan Ceibal).

[8] Uruguay is organized in Departments instead of States or Provinces.

[9] http://www.uruguayeduca.edu.uy/Portal.Base/Web/VerContenido.aspx?GUID=5a914b98-8ed5-416c-8002-4cab7d0ff250&ID=136599.

"It is Argentine State policy oriented to ensure equity in access to information society and to help social integration among all the sectors of the population" (Conectar Igualdad).

"... The Programme One Laptop Per Child answers to the need of educational quality and equality through the integration of information and communication technologies (ICT) in the educational process considering the national identity, particularly in areas with high levels of poverty, high illiteracy rates, social exclusion, population's dispersion, and low concentration rates of school population, in order to contribute to educational equity in rural areas" (Peru Educa).

Most MIL programmes search to improve educational equity through universal access to the digital tools and the educational system's quality, understanding that integrating ICT into education *"does not include just the instrumental use of new technologies, but that it implies learning skills of knowledge management, communication, exchanges with other people in a global world, innovation capacity, and permanent updating"* (Conectar Igualdad). The use of ICT is considered *"...an efficient resource to contribute to the development of educational capacities in students, particularly in the areas of reading and writing, logic and mathematical reasoning, and sciences"* (One Computer Per Child).

These policies' interest in improving the educational quality is due to the fact that, even if the coverage and investment in education have improved sustainably and steadily in the last decades in LAC, educational quality is still low and access to education remains unequal (ECLAC, 2011). The level of primary education in the region has progressed, reaching coverage levels similar to OECD countries. Nevertheless, secondary and tertiary education show important backlogs in the registries rate: respectively 82% to 99% in secondary education and 43% to 76% in tertiary education. Even if the educational quality has improved in LAC, the gaps compared to more developed regions are still relevant. LAC student performance is lower than lower than that of their peers in OECD countries in international tests such as the International Programme for International Student Assessment (PISA). Moreover, the differences in student performance by areas (urban and rural), gender, kinds of school (public or private) and socioeconomic status have increased. For example, in Argentina, México and Panama the performance gap between urban and rural schools exceeds 45 points after correcting by socioeconomic status, which means that rural students fall 1 year behind their urban peers (ECLAC, 2011).

Latin America and the Caribbean is far from being a homogeneous region. Likewise, not all MIL policies are developed in the same context. LAC countries vary widely in geographic extension, economic resources and needs, financial capacities, cultural framework, and even language. Internet penetration, as well as the infrastructure networks, the state of optic fiber coverage, or the public access equipments, vary according to the development degree of each particular Information Society.

Being the largest country in Latin America (more than half the South American region) and densely populated, *Brazil* must implement a wide-range MIL policy, appealing to local governments' decentralization and active participation. Municipalities are in charge of managing the purchase and distribution of informatic equipment in their territory, for a total of 37 million students, with a general budget of US $660 million. Each Secretariat of Education decides if the students can take their laptops home. This is why the four digital educational portals where students and teachers from all over the country converge have a fundamental importance, since they propitiate a common identity, based on unified values, methodologies and pedagogies.

Argentina has the second largest territory in South America, after Brazil; however, the Conectar Igualdad Programme aims not at territorial decentralization, but at administrative decentralization. Several national institutions are responsible for the Programme: the Argentine Republic Ministry of Education, the Social Security National Administration (ANSES), the Ministry for Federal Planning and Public Investment and Services, and the National Executive Cabinet's Head. Even if these institutions' actions regarding MIL initiatives are coordinated with the Provinces' governments concerning equipment distribution, the purchase and distribution are centralized. Delivering 3 million netbooks implies large-scale logistics. This is the reason why ANSES participation is key since this institution is in charge of the purchase and distribution of informatic equipment, as well as providing technical support. As in Brazil, the Argentine educational portal Educ.ar allows the unification of content, methodologies, and digital resources.

In both Argentina and Brazil there are several difficulties related to the coordination and articulation of MIL's NISPs. Dussel and Quevedo (2010) state that due to the accelerated expansion pace, programmes often overlap and suffer from insufficiency of internal articulation. National and regional programmes coexist in the same schools, and purchases are sometimes made by non-educational organizations. Planning or infrastructure secretariats incorporate computers when they build new schools, almost as if they were part of the furniture. As a consequence, these purchases are often uncoordinated with more comprehensive educational policies.

Lack of articulation among diverse policies accounts for the disparity between educational policies and other kinds of national policies. In the case of "Conectar Igualdad" from Argentina, there was a policy gap between digital literacy and the provision of connectivity and infrastructure. This has led to schools equipped with computers but with no Internet connectivity. As described by Dussel and Quevedo (2010): "The first concern is digital inclusion, and has to do with reducing the gap between social sectors and between generations in the access and the use of new technologies. Public infrastructure and connectivity are framed, among other things, by programmes such as "One Computer Per Child" and others that aim at the acquisition of competence for the use of ICT. Recent data from the Argentine educational system and other countries in the region show significant progress in this direction. However, the connectivity map shows that important steps remain to ensure access to the most neglected sectors of the population, either for socioeconomic reasons that limit such access or geographic regions beyond the reach or current coverage map connectivity".

Chile's LMC project is not focused on solving the digital gap, as are many of these programmes in Latin America. Its main objective is to ensure ICT based learning towards PISA skills. It prioritizes educational quality over equality of opportunity. It should be remembered that Chile is one of the Latin American countries with highest Internet penetration (59%), behind Argentina (67%), so many students have computers at home. The pedagogical approach is similar to other countries using 1-to-1 teaching models. Teachers are trained regularly and there is a permanent tutor in each school. Since 2011 teacher training in educational resources and computer support patrols have intensified.

The Government of Colombia is committed to a National ICT Plan 2008–2019 (PNTIC) to have all Colombians become informed and communicated by efficient and productive use of ICTs, to improve social inclusion and increase competitiveness. To achieve this goal, the Plan proposes a set of policies, actions and projects in eight main areas: four transverse (Community; Regulatory; Research, Development and Innovation; Government Online) covering issues and programmes that impact different sectors and society groups, and four vertical (Education; Health; Justice; Competitiveness) which relate to programmes that will allow achievement of better ownership and use of ICT in priority sectors within this Plan. The Plan emphasizes three key aspects to be undertaken in the short term: improve access to infrastructure, help the widespread adoption of ICT in SMEs and consolidate the process of government in line. For the implementation of PNTIC, it will be necessary to establish alliances and collaborations between government, private sector, academia, the scientific community and civil society.

5. Conclusions and proposals

MIL policies in Latin America reveal the region's two main needs regarding its progress in Information Society: a) to grant the population democratic access to media and information literacy and education; b) to generate innovation processes based on education and knowledge, capable to diversify the region's economy and to build an ICT based economic structure. In LAC economies, intensive in natural products, governments must use a part of the resulting income to encourage the diversification and competition of the rest of the economy, investing on education, innovation, and infrastructures (ECLAC, 2012).

While the main objective of digital literacy programmes is the inclusion of the most neglected people, not all programmes prioritize the same needs. Chile, Argentina and Uruguay intended to reduce the digital gap within their territories and in relation to developed countries, but their policies do not distinguish between rural schools and urban schools to decide specific programmes. Peru and Mexico's MIL NISPs are based on the need to solve the problem of high levels of inequality and the huge digital gap, coupled with a low Internet penetration. The programmes' priority is to include the most vulnerable social sectors in information society in the case of Peru, and to reduce the "hard gap", mainly among the illiterate population, in the case of Mexico.

Regarding the countries' technological capacities, Argentina and Uruguay already have a relatively high university education level. They need to advance towards coordinating their policies regarding both education and productive development in order to increase their economies' competition in the global market. Brazil is oriented towards strengthening the technological capacity of its productive structure. Meanwhile, smaller countries, such as Colombia and Chile, are hit by an intensive brain drain process and need to attract qualified human capital.

In Argentina, Uruguay, Colombia, and Chile, the goal of digital literacy programmes is not only reducing the digital gap, but also training human resources, increasing and updating the quality of education, and linking education with science, technology and innovation as well as the productive sector. Peru and Mexico are still at an earlier stage where the main priority is to care for a marginalized sector of the population, not only due to the lack of connectivity but also because of lack of analog literacy, rurality and extreme poverty. The socioeconomic context is a determining factor in setting priorities, approaches and goals to be followed by each of the programmes.

In general literacy programmes or training in ICT are part of larger NISPs. Not all countries are equally developed with such agendas but in some cases, such as Colombia, they set explicit objectives that involve all sectors of society: the community, the productive sector and the state. The goal of promoting the

adoption and appropriation of ICTs in all spheres of society is in line with the three pillars on which the knowledge society is based: family and everyday life, new economy and labor, and politics in the knowledge society.

Proposals

Implementing digital inclusion is not sufficient. The top priority is for government, bussiness, universities, research centres, NGOs and communities to participate in the process of communication between public policies for Media and Information Literacy and innovation, as a multistakeholder process. It is important to weave knowledge networks so that the flow of knowledge and interaction between stakeholders allow for the consolidation of the innovation system.

The educational, S&T+I, and the productive systems need to establish active networking between social agents. The inclusion of scientists, students, business, and NGOs in the planning development of the programmes could be a first step.

It is necessary for the various countries of the region to improve the articulation and management of MIL programmes within each country. Programmes often overlap and suffer from lack of internal articulation in the various territorial levels. Informatics equipment purchases are frequently made by non-educational agencies such as ministries of planning or infrastructure, without coordination with specific education policies.

Moreover, some national policies related to information society are distributed among different ministries, and have become outdated. It is necessary to improve the coordination and monitoring of NISPs as well as to design national agencies responsible for information society policies.

Digital literacy programmes need to widen their scopes by creating articulation networks along with other programmes to surpass the basic MIL. The ultimate goals of digital literacy – beyond the democratization of knowledge – should be developed for long term objectives and lines of action determined in that way.

As a region, Latin America could target their PDAs and digital literacy programmes to achieve common goals, to articulate plans and programmes of each country and countries together, enriching their experiences. Of course, to do so the political situation within and between countries should be favorable; and the political map of Latin America has not always been so. However, in recent years the region has a particular political harmony which could, indeed, be advantageous in this regard.

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Promoting Media and Information Literacy: A Case Study of Bangladesh Public Sector

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Introduction

In today's increasingly globalized world, media and information literacy are considered as two of the most important capabilities required by global citizens. A citizen of a free and democratic country has the right to have access to information and know everything happening around her/him. It is a fundamental right of every citizen as enshrined in the UN resolution at its very first session in 1946, stating that "Freedom of information is a fundamental human right." However, access to information is directly linked with the ability of people to identify their information needs and take necessary action to make those needs fulfilled. This has catapulted information and media literacy to the centre of public attention because, in a world characterized by the proliferation of various media, we must have a good command not only of information sources but also a whole plethora of media which are used to disseminate and share information.

Although democratic societies of the developed world have achieved considerable advances in this regard, developing countries are still lagging far behind in promoting information and media literacy among larger cross sections of people. There is pressure from media and civil society groups, both domestic and international, for greater access to government information and making the populace more active in seeking their desired information. International bodies and development partners such as the World Bank, International Monetary Fund, etc. are promoting such practices and laws in the developing world to ensure transparency and accountability, but a lot remains to be done to make any sustainable improvement. Bangladesh, a country of 160 million people, which has been striving hard to put into democratic practices after a long stint with military rules, also is in the forefront of these countries.

The International Convention on Civil & Political Rights (ICCPR) was adopted and opened for signature, ratification and accession by the UN General Assembly resolution 2200A (XXI) of 16 December 1966 and became effective on 23rd March 1976, in accordance with Article 49. As per Article 19

(2) “Everyone shall have the right to freedom of expression; this right shall include freedom to seek, receive and impart information and ideas of all kinds, regardless of frontiers, either orally, in writing or in print, in the form of art, or through any other media of his choice.” Bangladesh ratified the convention in 2000 and was pledged bound to guarantee access to information to all its citizens. Article 7 of the Bangladesh constitution guarantees basic human rights including access to information. There was however no progress until a draft law was prepared in 2002 and it was promulgated by the past caretaker government in 2008. However, the present government finally passed the Right to Information Act 2009 (RTI). The RTI is expected to create a more open and democratic society. Information can empower poor communities. Easy access to information can create awareness about peoples’ rights and responsibilities of government. Citizens can take part in development projects upon information and shall have the due share. They can ensure balanced development of different regions, and also work for equality among man and woman, rich and poor, people in power and in opposition. People can know about the utilization of their tax money paid to the government exchequer.

The RTI Act 2009 in Bangladesh has some unique features to guarantee the rights of the citizens. As per Article 9 of the act, no request shall be summarily rejected on the ground of national security, but if there is any part of the request that is not related to national security it must be disclosed to the citizen who has sought for such information. The Act has superseded all prevailing acts including the official Secrecy Act 1923, meaning there is no restriction on free flow of information. Some of the information like life, death, arrest, confinement or release by law enforcing agencies, etc. must be disclosed within 24 hours of request by any citizen. The Government Service Rules 1979 had specified that disclosers of departmental information would be punished but the RTI Act exempted them of any punishment. The service rule may be amended to match the RTI Act to make the process smooth. Meanwhile, a Right for Information Commission has been formed, a few government departments have assigned an official in their office to attend the request of citizens. But the commission is yet to have enough manpower and administrative structure to start functioning properly.

Library and information professionals and journalists, in particular, are also actively pursuing the spread of information and media literacy in Bangladesh. However, in order to effectively sensitize the broader part of the vast population of the country, it requires a strong and concerted effort of vast proportion involving the government and non-government sectors and the civil society.

Media and Information Literacy: concepts

UNESCO defines that "Information and media literacy enables people to interpret and make informed judgments as users of information and media, as well as to become skillful creators and producers of information and media messages in their own right."

David Considine, chair of the first National Media Literacy Conference in 1995, defines media literacy as the ability to access, analyze, evaluate and create information in a variety of media formats including print and non-print.

According to IFLA, "Media and Information Literacy consists of the knowledge, the attitudes, and the sum of the skills needed to know when and what information is needed; where and how to obtain that information; how to evaluate it critically and organise it once it is found; and how to use it in an ethical way."

Origin and background of the study

The current research has been undertaken to assess the present state of information and media literacy in Bangladesh as well as to put forward concrete recommendations for improvement. In a society as mass mediated and media saturated as our own, media, their messages and their structures, must be taken seriously. But, while communications systems and information flows become increasingly central components of social, economic and political activity at all levels, media education, or media literacy as it is often called, remains fairly marginal. Fortunately, that situation is changing. Parents, community, educators, religious organizations, special interest groups and others are taking on the task of promoting media literacy. Bangladesh is no exception. The literacy rate of the country is 55.9 (Human Development Index 2011) and there has been a growing recognition of the importance of media and information literacy among the larger cross sections of people in recent times. This provides the basic idea of this study which aims at facilitating the promotion of media and information literacy in the country. As we know, various information channels and media play a major role in shaping our thoughts, concepts, beliefs and attitudes in modern times. Therefore, assessing people's perception about the media and also their understanding about information flow to and from these channels is crucial to help them move forward in this increasingly media-centric information society.

Objective of the study and methodology

The main objectives of this study are:

– Assessing the level of media and information literacy of educated people of Bangladesh,

– Identifying the obstacles for implementing media and information literacy in Bangladesh, and
– Putting forward recommendations for enriching and strengthening the media and information literacy campaign in the country.

The study was conducted on 100 respondents who live in Dhaka district at different location. The majority of the respondents are male. Most of the respondents are private service workers. Majority of the respondents are graduate and their income level range is Taka 20,000 to 30,000 per month. With the help of a structured interview format, the respondents were asked for their views. Due to some practical difficulties in accessing these respondents at their workplaces, the interviews were conducted door to door.

Limitation of the study

The survey was conducted in urban area and most of the respondents are well educated. So awareness of Media and Literacy is marginal. But there is little awareness regarding right to information and the necessity of having such a right, especially with regard to empowering the citizens. People in Bangladesh face great difficulties in accessing even the most mundane information from public authorities. The majority of the population are landless, and they survive by selling their own labour. This marginalized majority is at the mercy of the state, big business and trans-national entities who routinely make decisions affecting their lives, without taking their opinions into any account. The idea of human rights is not well known among the majority of the landless population, but if they could be made aware of their rights, and if the Right to Information could be made understandable to them, there would surely be a mass-movement to get those rights, including RTI. In that case media and information can play a vital role.

Analysis of data and responses

The questionnaire was divided into a few major parts, each of the parts covering different aspects. The first part was focused on assessing media and information literacy possessed by the respondents along with their demographic statistics. The second part covered the obstacles faced by the respondents in locating, retrieving, analyzing and processing the desired information as well as the media used for this purpose. The third part focused on the perceptions and recommendations of the respondents for promoting media and information literacy in Bangladesh.

According to the result of the survey, 32% of respondents admit that they are totally unaware of the importance of media and information literacy in the

context of socio-economic development of Bangladesh. 68% informed that they were aware of media and information literacy, but lacked a clear understanding of the implications and ramifications of the concepts. When asked whether they believe that media and information literacy can positively contribute in sustainable development, 60% answered positively.

As the analysis shows, the majority of the respondents agreed that media can play a vital role in improvement of access to information, transparency and accountability of the Government. The most interesting fact is that people are not getting most of the information from the Internet (45%). There is a large information gap between government and public information delivery (74%). The most important finding is that there is no information desk at the government offices (80%). It also shows that 86% of the respondents believe that receiving information is a fundamental human right. 70% believe that the overall condition of Bangladesh is not conducive to receiving their desired information. A large majority of the respondents (78%) think that government workers are neither motivated nor prepared to provide information to the common people.

68% respondents are of the opinion that bureaucracy is the major roadblock towards receiving information. 25% indicate that weak telecommunication infrastructure of the country is to blame for this predicament. Other notable responses are: widespread illiteracy, corruption, political turmoil, lack of policy support from the government, apathy of GO-NGO workers, lack of proper legal support, weakness of mass media, etc. 58% of respondents believe that launching a massive awareness campaign in educational institutions is the key to overcoming these problems and to making people more media and information literate. A large majority of them think that the government must link media and information literacy to their ongoing campaign for creating a Digital Bangladesh by the year 2021. They also advocated for carrying out similar interventions like the developed world to strengthen the state of media and information literacy in Bangladesh.

Recommendations

The present study unmistakably shows that for ensuring sustainable development of a country there should be a free flow of information and people must receive development information from both public and private sources in an unhindered manner. If they are to do so, they must be information and media literate so that they can access various sources of information, use media and channels for doing so and, after evaluating the information retrieved, utilize it for solving livelihood problems. In light of the findings of

the study, the following recommendations could be put forward for promoting media and information literacy in Bangladesh:

1. Government must take an active role in promoting media and information literacy. It is often seen that government workers are reluctant to either give the desired information to people or to help them get access to various information sources. Therefore, a proactive role of the government is the key to promote media and information literacy in Bangladesh.
2. The available channels of information should be strengthened so that people can use these media for receiving their desired information. For this, the country's weak telecommunications infrastructure must be strengthened and more new and evolving technologies should be applied in the sector.
3. An all-out campaign should be taken to introduce media and information literacy studies in all educational institutions including schools, colleges and universities. Library and information professionals and journalists should be made responsible for conducting these courses so that students could attain in-depth knowledge on media and information literacy.
4. Steps need to be taken to lessen and gradually remove bureaucratic complexities from every echelon of administration, especially in the government sector. It has been frequently seen that government workers deliberately harass common people in getting information. The bureaucracy must be motivated and enabled to provide information to people as and when required.
5. The role of library and information professionals is crucial for promoting media and information literacy. At present, they are not being involved in this process and, consequently, the state of media and information literacy in the country is seriously weakened. Therefore, library and information professionals should be actively involved in this sector under the leadership of the Library Association of Bangladesh (LAB) and other professional organizations.
6. The number of available channels and media must be increased so that the country's huge population can use these channels from all parts of the country. At the same time, new and innovative ways of disseminating information to the different cross sections of people must be devised.
7. Adequate funds need to be allocated for carrying out media and information literacy campaigns. At present a handful of NGOs are engaged in this campaign. They should be provided with logistics and policy supports to carry out their activities vigorously.

Conclusions

Developing countries like Bangladesh often lack adequate legal provisions for ensuring the right to information. Fewer than 7.5% of African countries have an enforceable right to information law (Darch, 2009). Experts suggest the main obstacles include a failure of political leadership, a culture of secrecy, low public awareness, and institutional barriers (Carter Centre, 2010). Crucially, the passage of an access to information law may be a necessary but insufficient step towards meaningful access to information: governments and citizens must be adequately able and willing to implement, enforce and use the laws. Implementation and enforcement of the law are the most critical and challenging stages of reform (Neuman, 2009). The involvement of the civil society in the promotion of media and information literacy is considered crucial for paving the way for creating a media and information conscious society.

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Cooperative Learning Reinforcing Social Innovation

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In Ecuador, South America, social innovation is recognized as the main effort to achieve human development in democracy. There is a strategic correspondence between cooperative learning and social innovation partnership, which was discovered during the studies for the design of pedagogical instruments at the Yachay University.

Cooperative learning is offered as MIL Curriculum Framework for the design of the Yachay University. Yachay is a research and experimental public university supported by the Ecuadorian State. The use of cooperative learning is being proposed to enhance social innovation of communities connected at national level.

This process will improve the understanding and importance of informed decision-making. Cooperative learning refers to the instructional approach that puts students together to work towards accomplishing shared goals. Cooperative learning can range from simple paired work to more complex modes such as project learning for social development.

The wide mixture of culture and ethnics which characterize the society of Ecuador demanded the exploration of how to manage academic heterogeneity in classrooms with a wide range of achievement in basic skills. So, contacting community directly from classroom became an appropriate method in the learning and teaching of media education as it requires the sharing of ideas and learning from one another.

The use of cooperative learning to improve social innovation is the educational strategy to engage with media for self-expression and democratic participation. This process was proposed to underpin both community social learning and pedagogical approaches at the university level.

1. Exploring the underlying problems

One of the major problems facing Latin America as a region is the lack of interest in research, problem having to do both the State and the private sector and civil society. This lack of support shown by the actors mentioned has caused a brain drain, a reaction that is not exclusively of Ecuador[1].

[1] Hernández Alvarado, J. (2009). Problemas de la educación superior. Diario HOY, alandazu@hoy.com.ec, 08/Septiembre/2009 | 00:09.

Further, Ecuador is not alone in facing the challenges and difficulties related to funding education, solving unequal conditions of access to education, lack of skills-based training, enhancement and preservation of quality of teaching, research and services, among many other aspects to consider.

We should not forget the problem of disconnection of the real environment that characterizes today's college graduates, a direct consequence of the social divide in Latin America. There is some evidence[2] that social and economic gap remains one of the deepest problems of the region.

The effect-gap, characterized as social and economic polarization within the UNASUR[3], is heightened to the countries in the Pacific coast of South America (Chile, Peru, Ecuador, and Colombia), on which CEPAL[4] had shown the weight of a productivity gap[5] relative to the U.S. economy.

Given the evidence[6] that changes induced in the structure of techno-economic system only has led to the impoverishment of the cultural structure and policy in the region, we need a transformation of elements of the social system of regulation, education and aspects defining cultural appropriation of techno-economic processes.

Thus, institutionalization as a cultural interpretation of real life is an aspect that has been raised in Latin America by Cuba and Venezuela. Considering the experiences of Chile and Argentina the creation or increase of a reflective social organization is needed.

The developments made by Brazil and Mexico indicate that it is necessary to delve into the formation of epistemic communities enabling cognitive evolution of mediated collective interpretation. This involves developing a new model of education, particularly the direct involvement of the college in building learning systems to strengthen social innovation[7].

[2]Comisión Económica para América Latina y el Caribe (CEPAL) (2007). Cohesión social: inclusión y sentido de pertenencia en América Latina y el Caribe. Tabulaciones especiales de las encuestas de hogares de los respectivos países y Banco Mundial, Gráfico III.5 América Latina: participación de los hogares en el ingreso total según deciles de ingreso alrededor de 2005 y relación de ingresos medios entre ambos, 1990–2005, World Development Indicators (WDI).

[3] Union of the southern nations.

[4] Economic Commission for Latin America and the Carribean.

[5] CEPAL, GTZ (2010). Ciencia y tecnología en el Arco del Pacífico Latinoamericano: espacios para innovar y competir. Sexta Reunión Ministerial del Foro del Arco del Pacífico Latinoamericano Cusco (Perú).

[6] Tabla con los indicadores dinámicos de la UNASUR.

[7] Rosero, J. A. (2012). Interpretando el Territorio. En: Diseño del Manual UNASUR.

2. Exploring solutions from higher education

We know that "Higher education and research are now essential components of cultural, economic and environmentally sustainable development of individuals, communities and nations"[8].

A sample of the direction taken by this recognition is the ECTS system, intended to focus the student on quantifying the time commitment required to meet the objectives of the curriculum, which are specified in terms of the results of learning and skills to be acquired[9].

Interestingly, Latin America, taking in some cases the European Higher Education Area (EHEA) as an example, has already had some common convergence initiatives and development of professional profiles in terms of generic skills. Such is the case of the Common Area of Higher Education[10] and the TUNING project in Latin America[11].

Ecuador's Constitution states: "Education responds to public interest and will serve individual and corporate interests. It will ensure universal access, retention, mobility and exit without discrimination..."[12].

Special mention is also made of the purpose of higher education: "Academic and professional scientific and humanistic vision, scientific research and technological innovation, promotion, development and dissemination of knowledge and cultures, construction of solutions to the problems of the country in connection with the development objectives"[13].

The Regulation of Academic System in Ecuador is the opportunity to "ensure high quality training, regularly training at higher technical levels, undergraduate and graduate, in various forms, promote permanent scientific, technological, social links with community within a framework of quality and relevance"[14].

It links with the community provides the bridge to anchor in the reality of the classroom. This rule emphasizes the need to link the university with the community, with local development.

[8] Unesco Declaracion Mundial Sobre la Educacion Superior en el Siglo Xxi: Vision Y Accion. http://www.unesco.org/education/educprog/wche/declaration_spa.htm#declaracion.

[9] Beltrán Zambrano, R. J., Loaiza Aguirre, M. I., Andrade Abarca, P. S., Romero Fernández, L. M. (2007). Sistema de Créditos Académicos UTPL□ECTS Hacia el Espacio Común de Educación Superior ALCUE América Latina, el Caribe y la Unión Europea; agosto 2007. Universidad Técnica Particular de Loja. Loja: Editorial UTPL, 124 p.

[10] http://www.alcue.net.

[11] http://tuning.unideusto.org.

[12] Art. 28, Constitución Política del Ecuador.

[13] Art. 350, Constitución Política del Ecuador.

[14] Art. 1, Reglamento de Régimen Académico CONESUP.

3. Social innovation and local development

The concept of social innovation refers to new practices and forms of organization which aim to solve a social problem, and also address social aspirations[15]. Social innovations have tangible dimensions (creating jobs, products, improvement of living conditions, organizational forms, etc.). But they also have intangible dimensions: trust, links, information, development of capacities[16].

Innovations also appear in the organizational structure. A novel type of cooperative, union solidarity has been empirically discoveredthat has emerged in other countries and has led to special legislation (cases of Italy and Quebec). Innovation is also apparent in terms of management: participatory organizations where there are horizontal relationships are based on communication and information exchange.

They perform processes of collective learning impacts on knowledge acquisition, changing attitudes and behaviour towards greater autonomy and cooperation. Relational activities that take place between members and between them and the community contribute to the formation of "learning organizations", mainly by way of direction and relations with their environment[17] while strengthening the social fabric and building trust in the community.

In Europe, research on social innovation from a territorial perspective was initiated by Jean-Louis Laville[18] and Frank Moulaert[19] in the late 1980s and has been happening since then[20].

There is extensive literature[21] on social innovation in relation to territorial development[22], covering: first, innovation in the social economy (that is the approach of strategies to satisfy human needs), and second, innovation in the sense of changing and/or maintaining social relationships, especially government relations at regional and local levels[23].

[15] Cloutier, J. (2003). Qu'est-ce que l'innovation sociale? Cuadernos del CRISES, col. «Working Papers» No 0314. UQAM, Montreal. www.crises.uqam.ca.

[16] De la Maza, G. (2003). Innovaciones ciudadanas y politicas publicas locales en Chile. Reforma y Democracia, 26, junio. www.clad.org.ve.

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[18] See Greg Dees and others and the study published by NESTA: In and out of sync: growing social innovations, London, 2007.

[19] Transfomers. NESTA, London, 2008.

[20] Moulaert, F. and Sekia, F. (2003). Territorial Innovation Models: a Critical Survey, Regional Studies, 37(3), pp. 289-302.

[21] Anand, S. & Ravallion, M. (1993). Human Development in Poor Countries: On the Role of Private Incomes and Public Services. The Journal of Economic Perspectives, 7(1), 133-150.

[22] Ranis, G., Stewart, F. & Ramirez, A. (2000). Economic Growth and Human Development. World Development, 28(2), 197-219.

[23] Conteras, R. How the Concept of Development Got Started. University of Iowa Centre for International Finance and Development, E-Book.

In Latin America, especially in the central north, expansion of the concept of innovation is increasingly manifested. Innovation is conceived as a solution to the problems of society[24].

Therefore, innovation emerges as a possibility to improve the quality of life of peoples. This focuses attention on the "social capital"[25], a concept that refers to certain aspects of social organization, such as levels of trust, the rules actually in force and interaction networks, which can increase efficiency by facilitating the coordination of collective action and, in particular, spontaneous cooperation[26].

Cultural values of a society affect its economic performance[27], and innovation in social relations is carrying out important work in cooperation, mediation and conciliation between the various economic and institutional actors involved to achieve a culture of consultation and dialogue, which also includes innovations in the form of government.

An example of a dynamic generation of a clear strategy is the action of Innovation Centre "Un Techo para Chile", a programme that has connected 22,500 university students to serve the community[28].

The central strategy is to transform social problems affecting families in extreme poverty into opportunities for integral development (economic, academic and social) generating levels of co-creation among people with fewer economic resources, academia, private sector and public. This process may well articulate a link between the university and the community.

4.1 Pedagogical model focusing on the epistemic community building

To achieve the goal of a new model of teaching and learning based on "learning process" and shift the paradigm of learning as "centered teaching" the pedagogical proposal of the Yachay University has defined a new profile of the university teachers.

This action expresses three characteristics presented in this paper: the first refers to the profile as a "product" of a Community of Thought; the second refers

[24] Lopera, L. (2002). Las interacciones entre información e innovación desde la perspectiva de una ética bibliotecológica. Ponencia presentada en el Séptimo Congreso Nacional de Bibliotecología. Bogotá.

[25] Johnson, B. & Lundvall, B-A. (2000). Promoting Innovation Systems as a Response to the Globalising Learning Economy. Ponencia para el Seminario "Arranjos e Sistemas Produtivos Locais e as Novas Políticas de Desenvolvimento Industrial e Tecnológico", Río de Janeiro.

[26] Putnam, R. D. (1993). Making Democracy Work. Civic Traditions in Modern Italy, Princeton University Press, Princeton, New Jersey.

[27] González Romero, G. (2006). Innovación Territorial y Políticas Públicas. Boletín de la AGE No. 42.

[28] http://centrodeinnovacion.org/.

to “participated process”, a working model that allowed the construction of the profile with the teachers, administrative and human resources of the Yachay University; the third presents the tools and technologies used in integrated way (Virtual Collaborative Learning Environment, human resource management, video-research, e-portfolio).

The project developed by action-research has defined a shared idea of teaching quality, research-based and supported by tools that allow self-assessment of every teacher, to monitor the quality of the Yachay University educational Centres, to develop plans of continuous improvement building a community of learning.

4.2 Paradigm shift: the investment is in people not products

The teacher is an adult educator who accompanies students in their search and discovery process, which is learning. It reverses the transmissive teaching practice and involves the student as the key figure of learning. Thus, the teacher is responsible for building a context that favors the conscious acceptance of responsibility by each student toward their life project.

Teaching System Yachay promotes acceptance, freedom, creativity, ability to collaborate and cooperate with others, sense of duty toward entrepreneurship and innovation as the basis for social change.

The essence of the system is to provide the Yachay University’s transverse and real-time contact with the community (national or international) by introducing relationship in the classroom open to the generation of knowledge and experience in enabling an extended learning environment.

4.2 Cooperative learning: the university and the community

The competencies acquired through media and information literacy can equip citizens with critical thinking skills enabling them to demand high-quality services from the media and other information providers. Collectively, they foster an enabling environment in which the media and other information providers can ensure quality services.

By educating students to become media and information literate, teachers would first be implementing their function as advocates of informed and rational citizenry, and second, they would be responding to changes in their role as educators, as teaching moves away from being teacher-centered to becoming more learner-centered.

The development of enquiry-based skills and the ability to engage meaningfully with media and information channels using technologies driving

to social creativity allow for the growth of knowledge among students by solving problems at community level.

In terms of pedagogy user-generated content is used for teaching and learning, connecting community and the classroom in real time.

Then, problem-based learning is a curriculum development and instructional system that simultaneously develops students' interdisciplinary knowledge and skills and underpins community's critical thinking and problem-solving strategies.On the side of the university curriculum assessment, the connection of the community's needs with the classroom improves the skills to explore how information and media texts are produced, and mainly how social and cultural context of information and media production is used by citizens to underpin social learning and social innovation.

From policy and vision side, this process enriches the community by fostering a media and information literate society, as well as by allowing the students of the university to use creative solutions to catch up with social demands. This process also ensures leadership and model citizenry; championing the promotion and use of MIL for teacher and student development. It is a highly structured, cooperative learning mode to enhance both individual and collective knowledge by engaging students in critical and deep enquiry of real-life problems. Learning objectives, enquiry questions and methods, and the outcomes are all managed by students.

Children and ICTs in Brazil: An Approach to Media Literacy

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Introduction

As information and communication technologies (ICTs) become more embedded in young people's daily lives, it is of paramount importance that they are able to use information safely and critically. In this context, this paper will present key data on Internet usage among Brazilian children through the perspective of media literacy. It will base on the data of the ICT Kids 2010 Survey[1] conducted by the Brazilian Internet Steering Committee[2] (CGI.br), as well as the information retrieved from focus groups[3] among children, aimed at understanding their use of ICTs.

Media literacy[4] represents the competence to access the media, to understand and to have a critical approach towards different aspects of media contents and create communications in a variety of contexts. This paper will make reference to this definition, focusing particularly on the issues related to the new media, such as the Internet[5].

[1] The ICT Kids is a sample survey conducted annually in Brazil by Cetic.br. The survey measures access to and use of ICTs among the population aged 5 to 9 years old. Instruments for data collection include structured questionnaires applied face-to-face at the respondent's household. In 2010, the sample plan included 2,516 households in both rural and urban areas in Brazil. The sample design was systematic, stratified by conglomerates and quotas in the last stage. Further data on the survey is available at www.cetic.br.

[2] The Brazilian Internet Steering Committee (CGI.br) was created with the purpose of coordinating and integrating all Internet service initiatives in Brazil, as well as promoting technical quality, innovation and the dissemination of services available.
The CGI.br is comprised of representatives of the government, the corporate sector, the third sector and the academic community, and as such constitutes a unique Internet governance model for the effective participation of society in decisions involving network implementation, management and use. Based on the principles of multilateralism, transparency and democracy, since July 2004 the CGI.br has been democratically electing representatives from the civil society to participate in discussions and to debate priorities for the Internet together with the government.

[3] The focus group was conducted on March 2011 with six children. The participants profile was the following: Internet users (had used the Internet in the 3 months prior to the survey), girls and boys, aged 7 to 9 years old, medium household income.

[4] As defined by the European Commission. http://ec.europa.eu/culture/media/literacy/index_en.htm.

[5] The concepts of media literacy and information literacy become increasingly linked as content via the Internet and mobile platforms becomes more accessible (UNESCO, 2011). This paper presents indicators of Internet use in Brazil among children through the perspective of media literacy, but recognizes the relevance of information literacy and difficulties in distinguishing the two concepts.

ICTs in Brazil: facts and figures

Brazil is a large country and rising economy, ranked as the 6th largest economy in the world[6]. Despite the country's economic potential, income distribution is highly unequal and marked by regional discrepancies. Inequalities are also reflected in education and access to and use of ICTs. In this sense, a major challenge is universalization of ICTs and democratization of access to information.

In 2010, the ICT Households survey[7] conducted by CGI.br revealed that 35% of Brazilian households own a computer, and the Internet is present in 27% of the homes. In terms of use, 44% of Brazilians are computer users and 41% are Internet users[8]. The most mentioned reason for never having used the Internet is the lack of ICT skills, cited by 55% of the population. This fact reveals the relevance of promoting the media literacy debate in the Brazilian agenda. The second mostly often mentioned barrier is lack of interest in Internet use (40%). Nearly a quarter (24%) of the population that has never accessed the Internet declared not having a place to do it, and finally 23% claimed being unable to pay for Internet access.

Access to ICTs in Brazil by children aged 5 to 9

Access is an important dimension of media literacy and can be measured by two aspects: 1) physical access to media and its unrestrictive use; 2) ability required to use media contents (Buckingham, 2005). The latter refers to the cognitive and practical ability to use the media properly (European Commission, 2007). Although having access to the media is the first prerequisite of media literacy, in which case this aspect will inevitably refer to the digital divide debate, this dimension encompasses issues beyond physical availability. Cultural, social and technical dimensions to access, such as parental rules in relation to the use of ICTs must also be considered (Livingstone, 2003). The following section will describe the access to ICTs in Brazil by children between 5 and 9 years of age.

Among this group 51% declared to have already used computers at least once. The fact that half of the population aged 5 to 9 in Brazil has never used

[6] FT. Financial Times Global Economy. http://www.ft.com/intl/cms/s/0/e23a2b34-678e-11e1-b4a1-00144feabdc0.html#axzz1xD6bstmE.

[7] The ICT Households is a sample survey conducted annually in Brazil by Cetic.br. The survey measures access to and use of ICTs among the population aged 10 or above. Instruments for data collection include structured questionnaires applied face-to-face at the respondent's household. In 2010, the sample plan included 23,107 households in both rural and urban areas in Brazil. The sample design was systematic, stratified by conglomerates and quotas in the last stage. Further data on the survey is available at www.cetic.br.

[8] In the context of the ICT surveys conducted by CGI.br, a computer and Internet user is defined as an individual who has used such technologies at least once in the three months prior to the interview.

computers illustrates the challenge in the country towards digital inclusion. Regional inequalities are evident: computer usage level is higher in urban areas (53%) than in rural areas (46%). There is also a considerable difference between computer and Internet use according to children aged 5 to 9: while 51% claim to already have used computers, only 27% claim to have accessed the Internet. In the present context of media convergence in which the computer and the Internet are increasingly interrelated, children are unable to clearly differentiate between the two concepts. Such results also reflect the gap between ownership of computers and Internet in Brazil.

Internet access is less prominent among children who live in rural areas: 28% of children aged 5 have used the Internet in urban areas and 21% in rural areas. This discrepancy can be partially attributed to the reduced presence of ICTs in rural areas.

Although computer and Internet use are relatively low among the population, mobile phones are the fastest growing media in Brazil. According to the ICT Households 2010 survey, 79% of the population aged 10 or more claim to have used mobile phones in the three months prior to the survey. This proportion is practically twice bigger than that of computer users (44%) and Internet users (41%) in the same year.

Among children aged 5 to 9 years old, over half (59%) claim to already have used a mobile phone, despite differences between urban (61%) and rural (48%) areas. This proportion also varies according to the child's social class. In class A[9], that is, the higher social class, 86% have already used a mobile phone, whereas in the lower social class, DE this proportion is 47%.

In terms of mobile ownership, 18% of children aged 5 to 9 who have already used a mobile phone declared to have their own device. This proportion varies according to the age of the child: 24% among 9-year-olds, 16% among 6-year-olds and 7% among children aged 5.

ICTs in the household

The child's household is the most mentioned location of Internet use. For this reason, it is important to understand what characterizes the use of ICTs at home: location of use, presence of mediators, strategies of mediation among others.

[9] The Brazilian economic/social classification criterion was developed by the Brazilian Association of Research Companies (ABEP) as an instrument to segment the population based on the household's characteristics (assets) and on the head of the household's level of education (CGI.br, 2011). The classification strata are the following: A1, A2, B1, B2, C1, C2, D and E. For purposes of survey analysis, they are grouped in A, B, C and DE, A being the highest social class and DE – the lowest.

The child's household is the location where most (47%) children aged 5 to 9 declare to use the Internet. Other popular locations are "another person's home" (37%), "school" (33%) and "LAN houses"[10] (27%).

In terms of children's use of ICTs in the household, 44% of parents/guardians that own computers claim that these are located in the living room; 25% declare their bedroom as the location where the computer is present, and where its usage by the child is more likely to be supervised; and 21% reveal that household computers are located in the child's bedroom.

Among kids aged 5 to 9 who have used the Internet, most (39%) declare to do it alone, unsupervised. When the child is not alone, the mother's presence is the most mentioned (35%). Other mentions are "relatives" (29%), "teachers" (28%), "siblings" (26%) and "friends" (25%). The child perceives a varied presence of different mediators during Internet use, especially that of the mother. Parents/guardians' mediation of their child's Internet use is very relevant and will be further explored.

21% of parents/guardians claim not to control or restrict their kids' use of the Internet. Among those who mention any form of mediation, the most popular method is advising children about Internet use through conversation (40%). Although this activity is the most mentioned, it reveals that 60% of parents/guardians whose children are Internet users do not talk to their child about this matter. Limiting the time spent online was mentioned by 34% and sitting by the child during his/her Internet use was cited by 31% of parents/guardians. Regarding more technical approaches, 20% check the history of content viewed by the child on the Web, and 15% block certain websites to prevent access by children.

Despite advising the child through conversation being the most mentioned mediation strategy by parents/guardians, focus groups conducted with children aged 7 to 9 years old, aimed at further understanding children's Internet use, provided insight on such advice. According to the child's perception, parents/guardians worry fundamentally about protecting the computer and this concern is reflected on their restrictions regarding the child's Internet use:

[10] A LAN house is a commercial establishment where people can pay to use a computer with access to the Internet. This establishment usually offers many services, among them printing, photocopying and typing. *LAN house* is the term most commonly used in Brazil, but in some places it can also be called *cyber café* or *Internet café* (CGI.br, 2011). LAN houses are an important location for Internet access in Brazil, particularly among the low-income population and the young population.

"I use the Internet whenever I want to and as I like. My father does not care as long as I do not put viruses on the computer, he lets me do as I like". (Boy, 8 years old)

"My father only allows me to go on YouTube and play games. If I use anything else, then I damage the computer". (Girl, 9 years old)

Survey data has revealed that the parent/guardian's own experience with Internet use influences mediation. Generally, Internet users mention more mediation strategies than non-users. The proportion of parents/guardians that neither control nor restrict the child's online activities and are Internet users is 16%, whereas the ratio among non-Internet users is 35%. Also, more parents using the Internet themselves declare to sit with the child during online activities: 37% against 13% among non-users.

The child's profile also influences different patterns in mediation: girls are more prone to mediation by parents/guardians than boys. The main difference can be seen in checking the history of websites accessed by the child: 24% of the parents of girls monitor what their daughters have been doing online, whereas only 15% of the parents of boys do so. Another significant figure is that 28% of the parents of boys claim not to control or restrict their sons' activities, whereas among the parents of girls this proportion is 14%. The age of the child also matters: sitting with the child during Internet use is mostly carried out with children of younger age. This does not necessarily indicate some form of control, but possibly refers to assistance by parents/guardians during their child's initial steps towards the use of computers. Other activities such as talking to kids about safe and responsible use of the Internet are not affected by the child's age.

From access to use of ICTs

Although access is an important aspect for understanding media literacy, providing media access does not necessarily determine its use. Furthermore, the provision of access to media does not imply quality in knowledge, culture and participation through media. For greater understanding of such aspects, it is important to assess the nature and quality of media use (Livingstone, 2003).

Media consumption in the context of new technologies ceases to be passive and becomes interactive, confusing boundaries that separate "consumers" and "producers". This in turn also confuses the limits of what is considered the "creative" dimension of media literacy (Buckingham, 2005). With the use of new technologies, content production becomes easier than ever. Information is produced rapidly and abundantly and distributed through the web (Livingstone, 2004).

Developing ICT skills is a necessary and important aspect for its use; however, learning to use the media cannot be reduced to the acquisition of technical skills. Education for media use must develop competencies that allow children to properly decode media messages (UNESCO, 2010).

Among the computer activities that were investigated in the ICT Kids 2010 Survey, the most mentioned by children aged 5 to 9 was drawing on the computer (79%). Next are writing on the computer (62%), listening to music (52%) and doing maths on the computer (27%). Generally, activities become less frequent as more complex skills are required.

While children identify a broad network of people participating in the acquisition of ICT skills[11], 20% of the children who use computers claim to have also learned on their own. This reflects a trend in increasingly intuitive and interactive technologies that allow children to explore and learn how to use the new media by themselves. Data also suggest that the presence of computers at home encourages self-learning: while 25% claimed to have acquired ICT skills on their own, among children who do not, this ratio is 15%. In rural areas, the proportion of kids who claim to have acquired ICT skills on their own is lower than in urban areas, possibly reflecting restricted access to computers in these areas.

Focus groups revealed that even before children learn how to write, they understand how to surf the Internet intuitively with the visual help of icons. Not knowing how to spell correctly is not an impediment for finding things on the Web. In the case of typing a word incorrectly when searching online, children often seek for help from siblings and parents or rely on the automatic correction of search engines like Google. Children claimed that web pages that contain images are easier to navigate than those containing text, and that browsing the web is easier through the recognition of familiar icons.

Regarding specific activities developed on the Internet, the vast majority (90%) of children aged 5 to 9 that has used the Internet declared to play games online. This activity is carried out in similar proportions by children of all ages ranging from 5 to 9 years old. The second most cited online activity – using the Internet for schoolwork research – only reaches half of the number of children playing online games: 45%. However, unlike playing games online, this activity varies according to the child's age: 21% of 5-year-olds that have used the Internet declared to have searched the Internet for school purposes, whereas among 9-year-olds, this proportion is 63%. Such data suggest that online games and activities related to school are the gateway to the virtual world among children.

[11] In terms of learning ICT skills, teachers are the most mentioned (37%). Family members also play a key role in this process, as relatives (27%), fathers (16%), mothers (23%) and siblings (22%) are frequently mentioned by the kids who have already used computers.

Despite presenting similar proportions among girls and boys, playing online is more popular among boys (92%) than girls (87%), whilst school activities are more mentioned by girls (48%) rather than boys (43%).

Next is watching online videos and cartoons, mentioned by 34% of children aged 5-to-9 that have already used the Internet:

"I go on YouTube, I look for some songs, some funny videos too". (Girl, 7 years old)

"For example, my father and I are playing a game, then we cannot complete the level, then we search on Google and we find how to". (Boy, 9 years old)

The next step taken by children online is participating in social networks, mentioned by 29%. This activity increases with age: among 5-year-olds that have used the Internet, 13% claim to have taken part in social networks, whereas among 9-year-olds, this proportion is 36%. This activity also seems to be more popular among girls (35%) than boys (23%).

One quarter of children aged 5–9 that have used the Internet mention instant messaging and 10% claim to have sent e-mails, although 24% declare to have an email account. Placing calls through the computer was the least mentioned activity (6%). Instant messaging, sending emails and making calls on the computer are all preferred by girls rather than boys.

Livingstone (2004) suggests that activities that involve content production such as email, chats and games develop complex literacy skills. Buckingham (2005) points out that it is unclear what kinds of media literacy skills are being developed by young children through such activities and attributes this lack of knowledge partly due to the complications involved in researching youngsters regarding their online activities.

In terms of activities carried out on mobile phones by children, most use the device to play games (84%). The second most popular activity is 20 percentage points below gaming: 64% declare making phone calls on the mobile device. More than half (54%) of the children aged 5 to 9 that have used mobile phones mention using the device for listening to music. Sending text messages is carried out by only 13%, but using the phone for Internet access is the least mentioned activity (1%). The ICT Kids 2010 Survey also reveals that one quarter of kids aged 5 to 9 who use the Internet claimed to have already felt fear or danger online. Awareness of exposure to risky situations increases with age: 9% of children aged 5 declared to have felt fear when using the Internet, whereas among 9 year olds, this proportion increases to 33%. At younger age, online activities are less complex, but also present lower exposure to risks. As kids

learn to access more diverse and sophisticated content, they are able to enjoy other benefits of the Internet, and at the same time are more exposed to online risk, further emphasizing the relevance of developing media literacy skills for dealing with these new experiences.

Conclusion

Brazil's social and regional inequalities illustrate the country's challenges in reducing the digital divide. The provision of access to ICTs is a condition for its use by the population; therefore, producing indicators that measure the penetration of ICTs in Brazil is an important component for studying media literacy in the country. Although access is a relevant barrier for Internet use and must be monitored, research on media literacy must cover aspects beyond physical access.

In the context of the new media where content production and dissemination is easier than ever, having access to ICTs and acquiring technical skills do not suffice for a critical use of the media. In this sense, information related to the understanding and production of media messages is still incipient. Assessing these issues is no simple task and involves methodological challenges. However, efforts are being made towards further exploring indicators on measuring media literacy in Brazil. An example of this is the recent adoption of the ICT Kids Online Brazil Survey based on the "EU Kids Online" framework developed by the London School of Economics. The survey focuses on the experiences of children and parents with new technologies, emphasizing risks and opportunities. As well as providing new inputs for greater understanding of the impact of ICTs among children in Brazil, the survey will also allow international comparisons through the exchange of data between different countries worldwide.

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Transforming Students into Scholars: Creating MIL Competencies Through Communicating Research

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The expansion of scholarly communication through open access resources is essential for extending scholarly and scientific research to developing countries, as well as for facilitating knowledge sharing worldwide. A key role for universities will be to insure that students develop the media and information literacy competencies essential for shaping and leading the new face of global scholarly communications. This paper proposes that one means of developing these competencies will be for university students to become actively engaged in the scholarly communication process by producing information and distributing their research and that of others through a digital institutional repository.

If transforming students to scholars is the goal, then how can this be achieved? The desired outcome would be students as producers and creators of knowledge. But knowledge integration and creation as the culminating and constructivist stage in the process has not always been a focus of information literacy instruction as librarians struggled to get students to master the basic steps of information seeking and finding.

Given the myriad definitions of information literacy and the other literacies such as media literacy and digital literacy, there is a worldwide recognition these interrelated literacies are necessary for functioning in the 21st century and must be brought together into a holistic concept. Ongoing discussions and expert working groups sponsored by UNESCO, IFLA, and other involved international organizations have resulted in more refined and expansive definitions. The *Alexandria Proclamation on Information Literacy and Lifelong Learning* stated that "Information literacy empowers people from all walks of life to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals." (UNESCO/National Forum on Information Literacy/IFLA, 2006). *Towards Information Literacy Indicators* provided the conceptual framework for developing the indicators, along with a valuable review of definitions and standards (Catts and Lau, 2008). The resulting document from the expert meeting in Bangkok, *Towards Media and Information Literacy Indicators*, proposed a set of three primary components for media and information literacy: Access, Evaluation/Understanding, and Use (Moeller, Joseph, Lau, and Carbo, 2011).

Up to now, there has been more research on the first two components of access and evaluation, but rather little on the last phase of the research process – the use, production and creation of knowledge. In recent years, however, the growth of the open access movement and the creation of institutional repositories for scholarly and creative works have put a spotlight on the need for competent scholars, knowledge workers and citizens who have the intellectual and technological tools, as well as the social and ethical awareness, and who will be able to not only create new knowledge but also to create the context for disseminating this knowledge freely to a global audience. A focus on MIL component 3 (Tier 2) – using information and, more specifically, creating information/knowledge – can help fulfill this need. This paper proposes that exploring MIL competencies in relation to undergraduate students engaged in institutional repositories (IR's) for research and scholarly communication can be a fruitful avenue for investigation.

Undergraduate student participation in institutional repositories

First, we can look at how undergraduate students are being engaged in contributing scholarly productivity to IR's. Undergraduate research is becoming an important priority in higher education, but just as with information literacy and media literacy, there are a variety of definitions of undergraduate research which vary according to a number of factors, most notably from institution to institution and from discipline to discipline. The Council on Undergraduate Research defines it as "an inquiry or investigation conducted by an undergraduate student that makes an original intellectual or creative contribution to the discipline" (Beckman and Hensel, 2009).

The most prevalent example of student involvement in IR's is the inclusion of student theses and dissertations as evidence of their capstone scholarly achievements. This is the traditional culmination of the research process, but now the theses and dissertations are digital and thus more discoverable. While many IR's began with a focus on faculty work, a growing number of them now highlight student work as well. In addition to being content providers, students (often as library employees) contribute their technological skills by scanning and uploading documents, checking on copyright permissions, and other tasks involved in acquiring, organizing, presenting, and preserving content. At the professional level, there are initiatives by some graduate Library and Information Science programmes to develop a digital curation curriculum to prepare students to be practitioners in the cultural heritage informatics realm. One example is at Simmons College in Boston, where a pilot project is being developed in conjunction with the Department of Information Technology and Media at Mid Sweden University in Härnösand, Sweden, and University College, London (Harvey, 2012).

Certainly, students will have developed and exercised information literacy skills in order to produce their theses and dissertations which are added to the IR's and will have used ICT skills to organize and provide content for the IR's. However, for the purposes of this paper, I want to focus on students' active involvement in undergraduate research journals hosted in institutional repositories and the relationship to the development of media and information literacy competencies.

Undergraduate student research journals

There is an ever-increasing number of student research journals of varying types and purposes. Many are peer-reviewed and have editorial boards. The publishing process may be under faculty or student direction. They may focus on undergraduate or graduate student content or not be limited, and may include faculty content. They may accept work from all subject areas or be discipline-based. The content may be derived from one institution, from a consortium or collection of institutions, or from an external and even global audience. The platform may be open source or proprietary. The bepress Digital Commons platform lists 94 student journals, of which many are specifically identified in the title as having an undergraduate focus. These may be general, such as *The Journal of Purdue Undergraduate Research* from Purdue University, or specific, such as *Note Bene: Canadian Undergraduate Journal of Musicology* from the University of Western Ontario.

What are some of the benefits for students of this involvement in undergraduate research journals? While this is a new area of research, some positive outcomes from these active learning experiences are being reported. Illinois Wesleyan University has several student undergraduate research journals and the Scholarly Communications Librarian, in collaboration with two Economics faculty members, has reported on the development of critical thinking, leadership skills, and an improved understanding of the research writing and review process. The student peer reviewers use a set of article evaluation criteria that parallel the information literacy competencies used to teach students the research process. The peer review criteria include such statements as: "Describes the research problem clearly and persuasively; provides adequate supporting arguments, evidence, examples, and details; correctly acknowledges and documents sources" (Davis-Kahl, January 2012).

The *Colonial Academic Alliance Undergraduate Research Journal*, sponsored by Georgia State University, is a consortial effort among twelve universities to promote and celebrate undergraduate research. When asked about the value of publishing in this peer-reviewed journal, students reported that the exposure beyond their own university was valuable in opening doors in terms of graduate

school and future jobs, since there were so few opportunities for undergraduate students to present their work and to be recognized for something more significant than a class project (Burtle, 2011). Because this journal is hosted on the Digital Commons platform, students get regular reports on downloads of their content, providing both frequency and geographic source of the requests.

This year's Council on Undergraduate Research Conference (June 23–26, 2012) offers two presentations on undergraduate research journals. One, "Papers and Publications: Opportunities and Issues in Electronic Undergraduate Research Journal Publishing", from North Georgia College and State University, will focus on the peer review process. The other, "Rethinking Undergraduate Publication: Pacific Northwest Journal of Undergraduate Research and Creative Activities", from Pacific University, will explore the role these journals can play in promoting student research beyond the local or regional context.

Because of this active involvement as producers of knowledge, students are now on the other side of the research process and have the opportunity for deep understanding of the issues that are involved in the research process and for developing the skills, knowledge, and attitudes that comprise the media and information literacy competencies. Students learn the value of evaluation skills for sorting out the mass of digital information through acting as peer reviewers and having the responsibility for selecting what a worldwide audience will read. They gain an in-depth understanding of the many dimensions of intellectual property issues, such as plagiarism and proper use of sources, self-archiving and authors' rights and copyright. One author has proposed that these intellectual property issues be brought together "in a single coherent philosophy of information society rights and ownership [as] one of the mainstays of the information literacy syllabus" (Joint, 2006). Students also experience first-hand the value of collaboration among scholars and they can see the possibilities for expanded and ethical global sharing through open access initiatives.

MIL competencies and student research journals

All of these outcomes will contribute to the transformation of students to scholars and the evolution of new modes of scholarly communication. A proposed framework for the competencies needed to function successfully in this new scholarly communications realm will be based on the core competencies presented in *Towards Media and Information Literacy Indicators*, the background document from the UNESCO-sponsored expert meeting in Bangkok (Moeller, Joseph, Lau, & Carbo, 2011). These core skills components are: Component 1: Access/Retrieve Media and Information; Component 2: Evaluate/Understand Media and Information; and Component 3: Use/Create/Communicate Media and Information.

These variables/indicators are intended to measure individual competencies for librarians, teachers, and students (Tier 2). The framework for the higher level competencies at the culminating stage of the research process will be Component 3 (creating & communication), but elements of Component 2 (evaluating) will be relevant, especially as they are reflected in the peer review process.

I propose designing a study to explore this framework by applying the indicators for MIL Components 2 and 3 to undergraduate students who have participated in student research journals hosted in institutional repositories. The initial scope will be limited to institutions in North American, the United Kingdom, and Australia whose IR's are hosted on the Digital Commons platform. Based on this preliminary work, the competencies can be refined and expanded through a more detailed rubric to better assess attainment of learning outcomes.

A further plan is to foster intercultural dialogue through global participation in student undergraduate research journals. Discipline-based journals that are already established can encourage contributions from students around the world. In addition, an initiative could be established to partner universities which have existing student research journals with universities without this resource, so that their students can experience the benefits as well. The launch of the first international University Network on Media and Information Literacy and Intercultural Dialogue through UNESCO/UNAOC-MILID could offer possibilities for future sponsorships of such collaborations.

Challenges for global expansion include questions such as: What digital publishing and IR platforms are available and sustainable? Will cloud computing be able to foster this collaboration and sharing, especially for developing countries (Frittelli, 2012)? How will language barriers be overcome? What national and/or political concerns exist? What resistance will there be to open access and non-traditional forms of publishing? (For example, see the survey of African journal editors' awareness and understanding of the Open Access movement reported by Ouya, 2006). What sources are available for support and financing? How can the MIL competencies be adapted for local contexts but retain a common core to allow for a more global assessment?

A brief review of some of the significant international documents of the last decade reinforces the strength behind the movement for global sharing of information and research and the necessity of developing the range of MIL skills, knowledge and attitudes to make this possible. The *Budapest Declaration on Open Access* (2002) states that the "the world-wide electronic distribution of the peer-reviewed journal literature and completely free and unrestricted access to it by all scientists, scholars, teachers, students, and other curious minds" is a public good which will "lay the foundation for

uniting humanity in a common intellectual conversation." The *Alexandria Proclamation* (2005) provided a universal definition for information literacy which can be adapted to multiple contexts. The *Moscow Declaration on Digital Information Preservation* (2011) proposes that IFLA "encourage the inclusion of components pertaining to the preservation of digital information in information literacy programmes and curricula". The *Media and Information Literacy Curriculum for Teachers* (UNESCO, 2011) is a powerful resource for incorporating MIL into teacher training.

The *Fez Declaration on Media and Information Literacy* (2011) invites all stakeholders to "integrate MIL in educational curricula… to endow both teachers and learners with MIL competencies" and to include user-generated content, intercultural dialogue, and embedded media and information ethics. The *IFLA Media and Information Literacy Recommendations* (2011) outlines seven recommendations for governments and organizations, including that they "commission research on the state of Media and Information Literacy and produce reports, using the Media and Information Literacy indicators as a base, so that experts, educators, and practitioners are able to design effective initiatives." And it is expected that the *Moscow International Conference on Media and Information Literacy for Knowledge Societies* will build on these foundations to advance MIL research and best practices.

Conclusion

What can students gain from participation in creating and producing knowledge through undergraduate research journals in IR's? Can this be incorporated into a conscious curriculum that will lead students successfully through the research process? Can this learning experience be made more explicit through measurable learning outcomes? The transformation from students to scholars (and informed citizens) comes as they learn about the real meaning and power of scholarly communication. They become empowered as they help to shape the new vision of what scholarly communication can mean for world development, world progress, world peace and understanding.

They learn about open access, which allows for sharing of knowledge and making resources available worldwide. They learn about digital curation and preservation of knowledge and the products of research and creative activity. They learn about the responsible and ethical use of knowledge and information as they select the best work for their audiences through peer review. They learn about intellectual property rights through insuring proper citation of sources and respect for copyright and engagement in new models such as Creative Commons. ICT skills, digital literacy, media literacy and information literacy are brought together in the research process and product.

Institutional repositories have arrived at a stage of development where they can be used not only to promote the dissemination and preservation of scholarly and creative work, but also as a powerful vehicle for developing and refining MIL competencies in undergraduate as well as graduate students, and to train these future researchers and knowledge workers and citizens to be able to deal both technologically and intellectually with the new world of scholarly communications. Research on MIL competencies and institutional repositories can contribute to the development of curricula to transform students into scholars and skillful users and creators of information. Active engagement by students in knowledge creation and dissemination, such as production of student research journals, can be expanded to an international scale to promote intercultural dialogue, discovery, and understanding.

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MIL: The Educational and Transformational Role of School Libraries

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1. Libraries between old and new alphabets

Education and libraries play a relevant role in achieving the ambitious goals posed by the United Nations Organization, UNESCO, European Union, such as creating inclusive societies based on information, knowledge, peace, mutual understanding, and sustainable development.

School libraries, as a bridge, an interconnection between school instruction and culture, education, information and communication, can provide a reliable, comfortable, welcoming learning environment where pupils can acquire life skills, media and information literacy, where they can grow self-directed, open minded and flexible, and develop their creativity in a lifelong learning perspective to become informed active citizens.

Nowadays, the school library is at the crossroads, between old and new alphabets: from the traditional one (A, B, C…) to the one related to social networks and the web. They are between old and new literacies: from the functional one – the "4 Rs", *R*eading, w*R*iting, a*R*ithmetic, *R*easoning – to MIL or Media and Information Literacy. Many I-words, as inquiry, invention, imagination, etc., "trump the 4 Rs" and indicate the components of the 21st century competencies (McKenzie, 2010), that are functional to effective learning. IL (information literacy) is progressively shifting to MIL (media and information literacy). MIL is much more than a simple addition of two literacies (media and information), because the combination of the various set of specific literacies (e.g., visual) and skills (e.g., communication skills) produces a result, not just a sum. MIL is defined as "the combination of media literacy and information literacy in order to achieve sustainable human development, build participatory civic societies, and contribute to the consolidation of sustainable world peace, freedom, democracy, good governance and the fostering of constructive intercultural knowledge, dialogue and mutual understanding" (Fez Declaration, 2011). On the other hand, an updated definition of "literacy" seems to encompass many similar competencies in "reading, writing, numeracy, visual communication, digital technology, critical thinking, speaking and listening" (WLS, 2012). IL/MIL education seems to be still very often misunderstood:

nowadays, user education and library induction activities are often presented as IL/MIL education; computer literacy is often considered as IL/MIL as well. Furthermore, proper and specific policies at national level and a collaborative culture in schools[1] (e.g., effective partnership between school teachers and librarians) to foster a 21st century learning are lacking.

There are many and controversial ways of defining the 21st century learning.[2] The so-called "P21" states 21st century learning key elements are both the students' outcomes (skills, content knowledge, expertise and literacies) and the related systems that enable those students with the required multi-dimensional abilities (Partnership for 21st Century Skills, 2011). School libraries can address multiple ways and styles of learning, a number of different teaching methodologies, old and new information needs[3]. "School librarians, most of whom have direct access to children on a daily basis, are in an excellent position to address these needs" (Thomas, Crow and Franklin, 2011, p. 99).

To meet the school educational goals and the information and learning demands, the school library should be rethought and designed as a "Learning Commons", where the twenty-first century students can meet, gather, bring and use their mobile technologies, discuss, exchange ideas, work together and learn as a whole, a group. "Learning Commons" is the environment where resources and information are properly organized to meet educational goals and enhance learning outcomes, through a cooperative process and collaboration between academic staff and librarians (Beagle, 2006).[4] A school library rethought as a Learning Commons will provide space, place, resources, programmes for such gatherings, as a home in the school building (Elliott, 2010). The Learning Commons "focuses on client-centered programmes pushing world class excellence throughout the school", energizes and enhances the quality of teaching and learning (Loertscher, Koechlin and Zwaan, 2008).

[1] Spiranec, S., Banek Zorica, M. (2011). Developing Understanding of Information Literacy within the Croatian School Environment. In: Marquardt, L., Oberg, D. (Eds.) (2011). Global Perspectives on School Libraries. Projects and Practices. Berlin: DeGruyter Saur: 33-43.

[2] See the article "How Do You Define 21st Century Learning?" (2010). Education Week, 4 (1): 32, available at: http://www.edweek.org/tsb/articles/2010/10/12/01panel.h04.html. The websites mentioned here and below in this paper were last visited and checked on October 4, 2012.

[3] See, e.g., the summary of user studies and research on children's information needs reported by Walter (2003, p. 579-582); see also: Thomas, Crow and Franklin (2011, p. 97-100).

[4] See also the two contributions by Bennett (2008) and (2009). A directory of libraries as "Information Commons" is available at: http://infocommonsandbeyond.blogspot.it/.

2. The transformational role of school libraries

Libraries are usually not at the top of the digital agenda in many countries. Although many initiatives (as Europeana[5]) about digitization are set up and produce useful services to the remote patron, like the availability of an increasing amount of resources, they focus more on technical issues, protocols, interoperability of systems to access digital objects and resources, rather than on education in media and information. Public expenditure in sectors crucial to social and economic development, such as education and cultural heritage (and, more specifically in library services), is progressively (and in some cases dramatically) decreasing.[6] Education to complexity, change, creativity, competent use of information and media through school libraries or their educational role are usually underestimated and, in general, not supported by national policies, while libraries do contribute not only to personal and cultural development: they play a relevant educational role which enables their users to make a proficient (or, at least, a good) use of information. Being the school library so closely intertwined with the school curriculum, its role is intentionally educational. Its pedagogical role draws a behavioral and attitudinal change, offering different ways and strategies of information problem solving, many viewpoints, both from the past and present, through the works and resources available in the library or accessible through it, and from the co-working in the library with their peers. The school librarian/ information specialist can play some new key roles in curation, citizenship/ compassion, creation, connections, common core.[7]

The school library plays a key role as a transformational agent. Knowledge is the result of a personal construction, the outcomes of the interaction among one's own personal knowledge, feelings, disposition and imagination, his/her environment and the reality. This complex relationship can lead to different concepts (idealism, constructivism and realism) and outcomes (knowledge as invention, as construction, as reflection). The research findings in school librarianship have proved how the school library action based on a constructivist approach can produce in terms of positive school attainment and learning outcomes (Todd and Kuhlthau, 2005; Kuhlthau, Maniotes and Caspari, 2007). At pedagogical level, its implications mainly deal with transformative education and learning. The Journal of Transformative Education (Sage)

[5] Europeana (http://www.europeana.eu/portal/) is a portal to over 23 millions digitized objects and works from cultural collections held in European libraries, museums and archives. It is a EU project within the Digital Agenda for Europe: Digital Libraries Initiative, http://ec.europa.eu/information_society/activities/digital_libraries/index_en.htm.

[6] This is particularly true for Europe. See: Council of Europe/ERICarts, Compendium of Cultural Policies and Trends in Europe, 13th edition, 2012 (ISSN 2222-7334), available at: http://www.culturalpolicies.net (see, in particular, 5.3.4 Literature and Libraries from Albania to UK: http://www.culturalpolicies.net/web/albania.php?aid=534).

[7] http://www.eschoolnews.com/2012/08/02/five-key-roles-for-21st-century-school-librarians/3/.

defines transformative education "as those educational practices that are informed by transformative learning theory and that foster deep engagement with and reflection on our taken-for-granted ways of viewing the world, resulting in fundamental shifts in how we see and understand ourselves and our relationship with the world."[8] Transformative learning, according to Mezirow's theory, is mainly based on critical reflection on experience: it is defined as a "process of examining, questioning, and revising those perceptions of our experience" (Mezirow, 2012). Meaning is constructed from experience and it acts as a reference point, as a guide when making a decision or acting. Despite the debate whether the Mezirow's transformational learning lacks of the context account (as pointed out by Clark and Wilson, 1991) or not (Mezirow, 1991), the contributions from Mezirow himself, Freire and Daloz to the transformational learning theory (Clark, 1993) show how it cannot be applied only to adult learning and education field: this theory is a still growing research field, with interesting implications in children's education as well. Education is a powerful medium to mingle one's own creativity and knowledge construction with the ones of other individuals in a social environment (Sutinen, 2008), and co-work and co-construct together. This can be applied to a special social and learning environment as the one provided by the school library.

3. Transformational school libraries: some practices

Many countries have set up and implemented information literacy standards, models and projects in recent years. Nevertheless, an effective media and information literacy education is still a big challenge in most part of the world. Useful lessons can be learned from a number of practices of information literacy education through school libraries. Some of the projects and practices, selected by the fruitful collaboration between the International Association of School Librarianship (IASL, www.iasl-online.org) and the IFLA School Libraries and Resource Centres Section (www.ifla.org/en/school-libraries-resource-centers), and published in the IFLA Publication #148, are briefly presented here as practical examples. They aim at providing a better understanding of the school library educational and transformational role, and of how MIL (or IL) education can be embedded in the curriculum and effectively delivered and implemented through the school library. They are synthesized as follows.

3.1 Reading in the Digital Era: the R.O.A.D. programme

The Genazzano College is a Catholic day and boarding school located in Melbourne, Australia. Library services are intended to achieve the educational

[8] From the presentation of the Journal of Transformative Education, available at: http://www.uk.sagepub.com/journals/Journal201653.

mission of the school. They are provided by two school libraries, the Grange Hill Library and the Genazzano d'Houet Library. The first one is mainly addressed to pupils up to Year 4, the other one serves pupils from Year 5 and on. Information literacy education is specifically delivered: e.g., Year 5 and Year 6 students have "a 40-minute information literacy lesson each week where research skills are taught within the context of classroom-directed research".[9]

Reading skills, interest and habits, technological skills and information competencies are stimulated through different strategies and projects as "R.O.A.D.".[10] It is the acronym of "Reading Opens All Doors", a successful integrated reading programme. It is fully embedded within the English curriculum (at five school year levels) and "exposes students through talk, discussion and multimedia resources to a range of reading genre, styles and formats".[11] Multimedia and technology are incorporated in the R.O.A.D. programme. School libraries provide the school community with a suitable, ideal and stimulating setting.

The implementation of this reading programme has implied an ongoing evolution of the library services to meet students' need and technological change along the years. The R.O.A.D. Programme assessment is based on the production of: audio-files, using the open source software "Audacity", produced by individual students or small groups to advertise a selected book (Year 7); a show-bag (Y8), which contains items dealing with the content or the plot of the book; the story of a book that a student has read retold using images, audio and video files with a Microsoft freely accessible software, easy to use, called *Photostory* (Y9); a 3–5 minutes oral report (Y10) to stimulate communication and critical thinking skills.

3.2 Information literacy education in Nigerian primary schools

The main project goal is developing Information Literacy (IL) and delivering IL education through the school library resources and services in primary schools in Nigeria. No libraries in primary schools, narrow school curriculum (with some topics – e.g., birds, occupation, markets – neglected, others – transportation, marriage, housing, etc. – superficially treated), the lack of information and reading materials were the main challenges. The Project, during the Phase 1, aimed at collecting resources (human, institutional, cultural, natural) to go beyond textbooks, developing topics as opportunities for independent learning and foundations for project work; delivering workshops on Information Literacy. During the Phase 2, a number of workshops addressed to librarians and

[9] http://www.genazzano.vic.edu.au/learning--teaching-1/library.

[10] La Marca, S., Hardings, S. and Pucius, L., Reading Opens all Doors: An Integrated Reading Programme at Genazzano FCJ College, Australia. In: Marquardt, L., Oberg, D. (Eds.) (2011), p. 85-95. For further information, update and advice mail to: susan.lamarca@genazzano.vic.edu.au.

[11] Ibid, p. 86

teachers were delivered. During the Phase 3, a "Library Period Curriculum" was specifically designed and implemented to develop information skills, promote reading, encourage use of the library. Its efficacy was tested in 10 schools with libraries (5 using the library curriculum, 5 as control group). After 3 months, a same assignment on marriage was given and the quality of papers from the group using the library curriculum was higher than from the other group.[12]

3.3 "A Body in the Library": a transliteracy project

Proficient competencies in media, information and communications are crucial to fulfill the multiple facets of life. Media and information literacy education is functional to the acquisition of those literacies. As the project coordinator states, "information literacy is a foundational discovery activity that shows students how to investigate and walk through data with wisdom". Transliteracy is "the ability to read, write, and interact across a range of platforms, tools and media from signing and orality through handwriting, print, TV, radio and film, to digital networks" (Thomas et al., 2007).

"A body in the library"[13] is a cross-curricular transliteracy project that involves two subjects, English and Science. The aim of the project is to provide a cross-curricular, multi-literacy approach to reading, research and scientific investigation. Boys are usually less interested and proficient in reading than girls. The project, where a murder mystery in the library is to be solved, is addressed to 160 students (boys) of Year 8. The project aims at stimulating them to become more interested in reading, and fostering their reading and problem solving skills.

MIL aspects are implied: multimedia platforms were incorporated into the core teaching of English and Science topics, including use of digital media, online research, wikis for note-taking, tagging/social bookmarking for links, and online collaboration via chat in the school learning management system in co-operation with the library team. The library effectively supported English and Science in different approaches to literacy, information literacy and online learning. The library team focused on different and strategic ways to empower, enthuse, and stimulate meta-cognitive conversations amongst those students.

4. Closing thoughts

Pupils and students from different parts of the world are learning and getting prepared to become 21st century citizens or, better, global and digital citizens. They are expected to be able to make good, safe, responsible, creative, critical

[12] For further details: Dike, V. W., Ngwuchukwu, M. N. and Onyebuchi, G. U. Developing Information Literacy through Primary School Libraries in Nigeria, ibid, p. 108-117.
[13] O'Connell, J. (2011). 'Body in the Library': A Cross-Curriculum Transliteracy Project, p. 131-139.

use of information, media and technology, and therefore contribute to society in a creative and pro-active way (CSLA, 2011). The above mentioned practices show how the school library provides students with an information and media rich environment, services, activities and programmes that help them in acquiring the needed skills and competencies. The library should be a learning environment, or, better, a "Learning Commons", that plays a transformational role for librarians and teachers as well, and where professional development workshops and meetings, experts' visits, etc. can take place.

There are many other areas where the school library can play a relevant role. For instance, access to information can be a challenge in many countries. The school library can then develop reading and audio materials in indigenous (and official) languages, according to a specific collection building policy. It can also function as a gateway to specific and selected information and resources (e.g., health) and as the memory of local culture (e.g., collecting and podcasting oral narratives, for instance, from elderly people, from parents, etc.).

Effective collaboration at different levels (co-planning, co-working amongst faculties, school teachers and school librarians, between the headmaster and the school librarian, with public librarians) is crucial to good quality in school library services. The school library has to make stakeholders aware how it can make a difference in the students' learning process and in the school community. The various tools of social networking could be used to enhance communication with users and stakeholders and make the school library more visible. Those tools can be used to help the library to "advocate for the unfettered access to information and resources" (Harland, 2011: xiv) and facilitate its transformation into a flexible space, a learning commons, "that fosters collaborative work and social interaction among users" (Harland, 2011: xiii), and make its educational and transformational role more effective for all.

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Information Literacy Open Educational Resources: Sharing Best Practice in the Global Context

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Importance of sharing

Librarians have been creating resources with which to teach library users how to find information for decades. Whether this is in simple paper based leaflets, PowerPoint demonstrations or complex online learning modules, the aim is always to teach information skills so that library users can find the information they need for themselves. Even when material is generic and could be easily adapted for use by others, most teaching resources are kept within organisations or institutions. Whilst it can be seen to be more efficient to re-use another trainer's resources, there are other good reasons to want to share, including helping to raise the standard of teaching resources overall by spreading best practice.

Various public organisations have explored OER trends and both the JISC and the HEA in the UK and UNESCO have funded large scale projects in order to build evidence of good practice. In 2002 UNESCO organised the first OER Forum at which the term OER was adopted.

The UNESCO definition of OER is as follows:

> *Open Educational Resources are teaching, learning or research materials that are in the public domain or released with an intellectual property license that allows for free use, adaptation, and distribution.* [1]

2012 saw the tenth anniversary of this landmark and at UNESCO's 2012 World OER Congress, the Paris declaration[2] on OER was developed and supported by the participant countries. This emphasis on the need for governmental support is a clear indication of the importance of OER to education around the world.

[1] http://www.unesco.org/new/en/communication-and-information/access-to-knowledge/open-educational-resources/.

[2] http://www.unesco.org/pv_obj_cache/pv_obj_id_5CE50F23213FD62DD216A02D53DC65A5F03A0100/filename/Paris%20OER%20Declaration_01.pdf.

There have been several initiatives to share information literacy material online, both nationally (PRIMO[3] in the US) and internationally. The IFLA InfoLit Global Directory[4] was established to collate information literacy materials of all kinds from around the world on behalf of UNESCO. The resources linked to from this site do not necessarily have open licences attached but do at least provide signposts to quality information literacy materials.

In the UK, the JISC and the HEA have funded several phases of projects exploring creation and uses of OER. In 2008, the JISC published the Good Intentions report[5], which collated evidence of the good practice in sharing teaching resources. A key part of this report outlines different business cases for sharing, and highlights that open communities of practice are particularly appropriate for content creators who share subject-based curricula. Librarians teaching generic information skills are perfectly placed to share resources, especially as many librarians will belong to established communities of practice related to their subject discipline or sector.

SCORE[6], a HEFCE funded initiative based at the Open University, UK running from 2009–2012, focused on providing support for any educators involved in creating and sharing of OER. SCORE developed and delivered high standard training courses and online resources to encourage and guide content creators in best practice of OER. They also ran a survey in 2011 to explore how librarians currently engage with OER and they found that librarians are keen to share material but lack confidence and knowledge. The work of SCORE has now been superseded by the Open Education Special Interest Group[7].

However, a broader change in educational culture may be necessary before sharing becomes really successful. In 2011 the Commonwealth of Learning published an excellent guide[8] to OER which outlines the key steps organisations and educators need to take to fully engage with OER. These include an evolution in current educational practice (of content creators hoarding their resources) to a stage where institutions and organisations openly share their teaching material and encourage content creators to focus their efforts on collaborating with each other to provide a high standard of education for all.

Previous projects – BRUM and CaRILLO

In 2006 a project at the University of Birmingham, UK, was undertaken to explore the creation of re-usable learning objects (RLOs) to support librarians

[3] http://www.ala.org/cfapps/primo/public/search.cfm.
[4] http://www.infolitglobal.info/directory/en/home.
[5] http://repository.jisc.ac.uk/265/.
[6] http://www8.open.ac.uk/score/about_SCORE.
[7] http://www8.open.ac.uk/score/open-education-sig.
[8] http://www.col.org/PublicationDocuments/Basic-Guide-To-OER.pdf.

in teaching information literacy. The Birmingham Re-Usable Materials (BRUM) project saw the development of fifteen RLOs which were then hosted and shared with others on a local webpage. The material ranged from interactive PowerPoint slides on referencing to self-paced online tutorials on plagiarism. Some of the RLOs were also uploaded on to Jorum[9] and usage statistics collated to build evidence of sharing. The webpage was well used although the objects themselves did not have open licences attached, which meant that anyone wishing to use an RLO had to contact the project team directly to request permission to re-use. The selection of RLOs that were uploaded to Jorum did have Creative Commons licences attached automatically and were therefore easier to use in terms of permissions.

The RLOs were used with three different student cohorts to teach a specific information skill. Students were tested both pre and post activity to measure effectiveness. Overall, students gained confidence after using the RLOs and were positive about the formats used.

Other key findings of BRUM were that content designed to be shared should be created using commonly used software to avoid technical problems and that the more granulated a resource is, the more likely someone else will re-use it. The project also found that sites like Jorum are a great place to sustainably share resources, especially to share using open licences such as Creative Commons[10].

The BRUM project was followed up with an event at the University of Birmingham, Creating and Reusing Information Literacy Learning Objects (CaRILLO). This event brought together around thirty librarians and learning technologists from the UK to explore good practice in finding existing information literacy learning material and in creating resources designed to be shared. There were two key outcomes from this event. Firstly, the participants requested that a community of practice be established, within which they could continue exploring creating and use of information literacy OER. Secondly, that an online platform be found or developed to enable practical sharing of resources.

The hosts of the event created a wiki, which has now developed into the IL OER wiki[11]. This site brings together information about information literacy OER initiatives from around the world and collates feedback from several face to face events including CaRILLO.

Previous projects – DELILA

In 2010 the JISC funded DELILA[12] (Developing Educators Learning and Information Literacies for Accreditation) project was undertaken by the

[9] www.jorum.ac.uk.
[10] www.creativecommons.org.
[11] http://iloer.pbworks.com.
[12] http://delilaopen.wordpress.com/.

London School of Economics with the University of Birmingham and the CILIP Information Literacy Group as project partners. The aim of this project was to adapt existing information and digital literacy resources (used in modules of both institutions' certified postgraduate teaching qualification courses) to be openly shared on local and national repositories using open licences. The intra institutional project team used existing frameworks (SCONUL 7 Pillars[13] and the UKPSF[14]) to map the resources to specific goals that trainee higher education teachers were aiming to achieve.

As part of the project, improvements were made to the layout and presentation of resource pages within institutional repositories in order to better promote resources to potential external users. The resources were adapted using good practice from previous JISC funded OER projects and were uploaded both to the local repositories and to Jorum using Creative Commons 2.5 licences.

The project highlighted a range of challenges when adapting resources to be shared openly. Many of the resources used by librarians to teach information skills include screen shots of proprietary databases. However, when sharing using open licences, any screen shots had to be removed due to copyright restrictions. The solution developed in the DELILA project was to create placeholder images, describing the screenshot and where to access it. Issues such as these do not exist when using resources purely within an institution but are common place when adapting resources to OER.

One of the other key challenges was the inclusion of learning design/lesson plan information. Many of the resources were self explanatory and generic enough to be used by others easily. However, some resources needed explanations of the learning context and how best to utilise the material within different learning environments. This has become a crucial issue in sharing OER and one solution is to include learning design/context information within object metadata. This is one example of how the culture of resource creation needs to change so that it is a natural part of the process to include lesson plans.

Keeping resources up to date was another key consideration for the project team when uploading material to the repositories. How does any potential user know if the material is still relevant and current? Attaching a creation date to a resource is important but it was noted by the project team that other content creators may want to attach a use by date or renewal date, so that any subsequent users understand the shelf life of the material.

[13] https://www.sconul.ac.uk/groups/information_literacy/publications/coremodel.pdf.
[14] http://www.heacademy.ac.uk/assets/documents/ukpsf/ukpsf.pdf.

Survey

Even though the DELILA project ended in 2011 members of the project team decided to continue the exploration of the issues outlined above. In April 2012 a survey was sent out to librarians around the world engaged in creation and re-use of information literacy teaching material. The survey was live for one month and brought in 101 responses from librarians in different countries around the world including the UK, US, Australia, New Zealand, Spain and Estonia.

The survey included questions on if and how librarians searched for existing information literacy teaching resources and the barriers to this. The survey also collected information on how librarians currently share their own teaching resources, whether individually inside their institutions/organisations or openly through repositories.

A survey report[15] was published online to discuss the findings. The responses gathered contributed to a growing body of evidence of how librarians currently share information literacy OER and their demands for future sharing.

The responses show an active community of librarians already willing and able to share their teaching material. However, the majority of this sharing is happening either within closed institutions via email or through closed professional networks, again using email to send material. Therefore, whilst it is encouraging that the majority of respondents are happy and comfortable with the notion of sharing, this is done in a controlled, closed way. Interestingly, when asked about what processes would encourage them to share, the majority of respondents answered that they would prefer to use national learning object repositories. However, in answer to a different question many respondents said that they were not aware of where or how to upload material.

This clearly indicates an enthusiastic community unaware of the processes available to share openly. This could also indicate a failure on the part of repository managers to fully exploit communication channels to educate potential users on the benefits of uploading material nationally.

The other key issue for respondents was licencing. Alongside lack of knowledge about places to upload material, respondents also indicated that their ignorance surrounding open licences was a major barrier to sharing openly. Librarians are happy to email a teaching resource to an internal colleague but when uploading to a freely available website, issues around intellectual property rights suddenly become very important.

As well as barriers to sharing their own material, librarians acknowledged the challenges in finding and re-using others' work. Again, the responses show an enthusiastic community willing to re-use appropriate material but lacking

[15] http://delilaopen.files.wordpress.com/2012/04/findingsharingoers_reportfinal1.pdf.

the knowledge about where to find relevant, quality resources. One question encouraged respondents to note details of websites that they regularly use to find existing resources and many listed either Google Search or Jorum. This answer highlights a contradiction. Librarians often despair at library users relying on Google to find information. However, when it comes to an area they are uncomfortable with, information specialists sometimes resort to the same behaviour. The use of Jorum, however, is very encouraging and highlights that this repository is becoming part of the process in finding existing resources for librarians.

In conclusion, the survey highlighted that librarians are enthusiastic supporters of OER and the majority are already sharing informally and searching for existing teaching material. However, there is an acknowledgment of the limitations to this enthusiasm and further training is essential to equip librarians with the skills to engage with OER fully.

CoPILOT event

It was clear from the survey findings that further discussions were necessary in order to establish the detailed needs of librarians in a community of practice. An event was organised at the University of Birmingham with the survey respondents invited to attend, of which 17 accepted. The event, a launch of CoPILOT, was designed to draw out the key challenges in establishing an effective community of practice to support the creation and sharing of information literacy OER. Throughout the day, participants discussed various issues and the following conclusions were drawn.

Formal support – in order to raise awareness of the benefits of OER, more formalised support and promotion, from information literacy organisations such as the CILIP Information Literacy Group, is necessary. This will enable a wider discussion to take place and the use of well established communication channels and fora to spread the message. It was also felt that any community of practice should reach out beyond the UK to at first communicate and eventually fully engage with international partners.

Training on open licences – this was highlighted several times as something librarians would need in order to feel confident in sharing their resources on open repositories. However, it was decided that in some cases informal training amongst peers would be most appropriate.

Agreement of standards in information literacy OER metadata – as with all content uploaded to repositories, the quality of metadata attached to information literacy OER will determine how easily it is found by potential users. The importance of an agreed set of metadata cannot be underestimated in supporting librarians in finding quality material to re-use.

Learning context information – as highlighted above, a key way to add value to any teaching resource is to include lesson plans or information about learning context. Part of educating librarians in OER is to change practice from simply sharing resources to sharing much richer information *about* that resource too.

A set of actions was agreed by the participants to carry this work forward and a committee is currently being established, led by CoPILOT founders Dr Jane Secker of the LSE and Nancy Graham from the University of Birmingham. An annual timetable of training events will also be drawn up to meet the needs of librarians wishing to engage more fully with OER.

Further work with international partners

In order to address the international aims of the community of practice, links with UNESCO, made through the April 2012 survey, were explored further. Experts within the Communication and Information Sector became involved and potential future project work was discussed. Both OER and information literacy are key themes for UNESCO, therefore work on information literacy OER captures both trends.

A project team comprising DELILA project team members from the University of Birmingham and the LSE successfully bid for HEA/JISC funding to explore the international aspects of OER and are currently conducting a short case study project with UNESCO to investigate the use of the WSIS Knowledge Communities online platform[16]. It is anticipated that through this project further knowledge will be gained in using different communication channels to promote sharing of OER amongst librarians from all around the globe. This project is a chance to test the use of online social platforms to share resources and expertise and the findings will be important in advising librarians in the future as to the best practice in sharing resources globally.

Even though the IFLA InfoLit Global already provides an online space to upload links to material, this work will explore how virtual communities in which discussions can take place online, can support this uploading. How can the social aspect be fully exploited to encourage further sharing? The project will report in January 2013.

Potential future activity

Through presenting at the World 2012 OER Congress in Paris, the CoPILOT founders made further networks with other individuals and organisations interested in the role of the librarian in both creating and managing OER. The International Association of Universities (IAU) is embarking on a project[17] to

[16] http://www.wsis-community.org/.

[17] http://www.iau-aiu.net/content/iau-oer-project.

explore and enhance the librarian role in developing and managing OER. The aims of this project, outlined in the concept note, relate closely to the self-perceived needs of librarians responding to the April 2012 survey. It is part of the IAU OER project strategy to develop training sessions for librarians to equip them to deal with OER, including training on use of open licences. This common theme needs to be explored and support for the IAU on this project could be a potential future activity for CoPILOT.

2012 has also seen the publication of a Centre for Educational Technology and Interoperability Standards (CETIS) funded report[18] which highlights the importance of the librarian role in managing OER content within institutions and their involvement in OER projects as advisors on IPR, metadata and information retrieval. The report also highlights the need for further training for librarians on use of open licences, both as information managers and content creators.

Both these areas of activity clearly relate to the work of CoPILOT and it will be crucial to strengthen established links with both IAU and CETIS in order to improve knowledge and expertise in how librarians engage with OER.

Conclusion

Librarians are well established creators of information literacy teaching material. Through various projects and surveys it has also been established that librarians are keen to share their material with colleagues both within their own organisations and through professional networks. However, it's clear that focused training is necessary to equip librarians with the skills to undertake creation and re-use of information literacy OER in any meaningful way. Alongside other continuing work by international public organisations CoPILOT is helping to establish the frameworks and terms of reference for librarians eager to engage fully with OER and to build on librarians expertise of creation, adaptation and re-use of information literacy teaching material worldwide.

University Librarians[1] as Champions of Information Culture in the Contemporary Society

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The Belarusian State University Fundamental Library (BSU FL) is the national resource and coordinating centre of the network of 54 higher educational institutions' libraries in the Republic of Belarus. The network unites libraries of 33 universities, 7 academies, 10 institutes and 4 higher colleges located throughout the country.

One of the most important action lines of all libraries is information literacy (IL) promotion among students, faculty and researchers. Courses on IL usually last about 4–6 academic hours and are provided for all first-year students. Librarians give lectures and practical sessions on the structure of national and regional library networks and their resources, on information resources and services available at the library and in the local computer network of the institution, on efficient strategies and techniques of information search.

At present BSU FL is the only Belarusian library providing two complete courses (50 academic hours per each) on IL: 1) a course on "Information Search Technologies for Social and Humanitarian Disciplines" for first-year students of the Philosophy Division of the BSU Philosophy and Social Sciences Faculty, and 2) a course on "Information Search Technologies for Social Research" for first-year of the Sociology Division of the same BSU faculty.

These courses include the following subject sections:

- The library as an information search system;
- Electronic scientific and educational resources (OPAC, proprietary bibliographic databases, open access repositories, licensed databases, corporative databases accessible in the framework of inter-library cooperation, etc.);
- Information search on the Internet;
- The BSU institutional repository;
- Rules of the bibliographic formalization of information retrieval results, etc.

Within both courses students have lectures, practical sessions, a final comprehensive test and a credit.

Another direction of IL promotion in the university environment is providing consultations for faculties and researchers as authors of research and

[1] In the article all librarians working at university libraries are considered university librarians.

educational works archived in the BSU institutional repository. Librarians consult them on preparing Dublin Core descriptions of works, abstracting, selecting keywords, as well as on copyright regulations accepted at BSU.

All the above IL promotion activities are more or less common for the majority of higher educational institutions' libraries in the country. However, a question arises: "To what extent do such activities correspond to the mission and goals of a higher educational institution to which the library belong?" And, therefore, how do they meet the mission and goals of the library?

As defined in the UNESCO publication "*Towards Information Literacy Indicators"* (UNESCO: Paris, 2008) *information literacy* is the capacity of individuals to:

- Recognise their information needs;
- Locate and evaluate the quality of information;
- Store and retrieve information;
- Make effective and ethical use of information, and
- Apply information to create and communicate knowledge.

Information literacy has replaced bibliographic literacy at a time when the volume and value of network information resources became comparable with the volume and importance of information resources in print. Today, information literacy is a crucial factor of success in one's professional and scientific activities, as well as in daily life in the information society.

As we talk about an individual's competency (whether language proficiency, writing or reading skills, computer or information literacy), we mean, first of all, their knowledge and skills of using a particular method of *communication*. The rapid development of up-to-date information and communication technologies has led to a wide range of communication channels and to the invention of such a term as "transliteracy." The main idea is that today people need to aquire all kinds of literacy, or, in other words, a kind of "integrated" literacy for all currently known communication technologies. Sue Thomas, professor of new media at De Montfort University, proposed the following working definition of *transliteracy*: "*the ability to read, write and interact across a range of platforms, tools and media from signing and orality through handwriting, print, TV, radio and films, to digital social networks*."[2]

The introduction of the term "transliteracy" reflects the social meaning of "literacy", i.e. the properties of modern means of communication that allow each person to bring their views to a wider audience and break down barriers between the scientific community and the general public, and – due to the increasing

[2] Ipri, T. Introducing transliteracy: What does it mean to academic libraries? – Mode of access: http://crln.acrl.org/content/71/10/532.full. Accessed: 12.02.2013.

preference for disseminating knowledge through social networks – a challenge for the standard procedure of forming an authoritative opinion. Thomas points to "an increasing need for organizations and individuals to develop wider, more open networks, partnerships and trusted communities to *share ideas and to innovate (italics supplied – P.L.).*"

Lane Wilkinson proposed the following taxonomy of literacies (see Figure 1), which is close to the concept of "information culture", popular in the Russian-speaking environment.

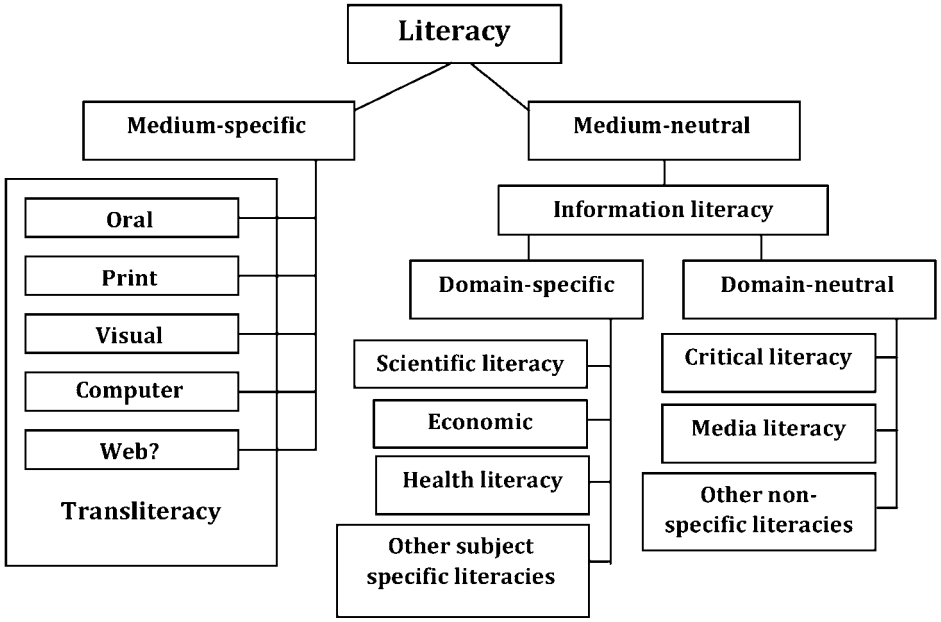

Figure 1. Lane Wilkinson's taxonomy of literacies

Yulia Dresher regards *personal information culture* (PIC) as a combined set of components with different functionality[3], such as *communicative culture* (culture of communication); *lexical culture* (language, writing and business documents design skills), *intellectual culture* (scientific research and intellectual labor culture), *information technology culture* (of using up-to-date information technologies), *information and legal culture, reading culture, ideological and moral culture, bibliographic culture.*

Today the activities of most libraries of higher educational institutions are focused mainly on such components as information technology culture,

[3] Дрешер, Ю. Н. Информационное обеспечение ученых и специалистов: учеб.-метод. пособие / Ю. Н. Дрешер. – Санкт-Петербург : Профессия, 2008. – 464 с.

bibliographic culture and information and legal culture. To a certain extent, libraries contribute to the development of reading culture by organizing book exhibitions, meetings of students with writers and poets, etc.

If compared with information culture, transliteracy lacks such components as “information ideology” and “social motivation”. Natalia Gendina noted this difference comparing information literacy and personal information culture. While arguing that people need to be literate in order to be involved in the public life and to bring their contribution to the society, the authors and popularizers of the term “transliteracy” try to take a neutral attitude and make no mention of motivation, which could be the basis of social activities.

Such a “neutral” position is deeply rooted. In 1934 at the opening of the International Congress of Bibliographers and Librarians in Paris, José Ortega y Gasset, a young but already famous Spanish philosopher, was invited for the traditional welcoming speech. With his sincere desire to help librarians, he proclaimed their “new mission” [4], which, in his view, was to become “reading hygienists” to protect readers from useless books. Ortega y Gasset believed that humanity was suffering from an excess of books: “Today people read too much. The condition of receiving without much effort, or even without any effort, the innumerable ideas contained in books and periodicals has accustomed the common man to do no thinking on his own account; and he does not think over what he has read… I imagine the librarian of the future as a filter interposed between man and the torrent of books.”

The international library community met the philosopher’s speech with restraint and critical reviews. However, it’s hard to disagree with Ortega y Gasset today when we evaluate the mass-media environment in which a person is immersed, and to argue against the philosopher’s idea that when people read a lot and think too little, the book becomes a terribly effective tool of falsification of life.

Hardly anyone would dispute the fact that the main mission of the library as a social and cultural institution is to develop a certain world outlook (ideology). Usually we perceive ideology as one of the functions of the state system, but its concept is much broader – ideology is related to life and work of individuals sticking to certain ideas, which they consider to be their life principles and priorities.

Library has always been a means of storage and dissemination of ideas: in its early history – for a narrow circle of the elite (“initiated”) for transferring ideas and knowledge from the governor to his successor or for their usage by priests-ideologists, and with the development of human civilization – for more and more of the population.

[4] Ortega y Gasset, J. (1961). The Mission of the Librarian. In: The Antioch Review, Vol. 21, No. 2 (Summer), pp. 133-154. http://www.jstor.org/stable/4610323.

Besides the library, the formation of the ideology and culture of man is influenced by various social institutions: the family, the school, the surrounding social environment (e.g., through the mass media). However, in our view, the university plays a crucial role in forming the global society culture today. According to John Henry Newman, one of the greatest thinkers and writers of the 19th century, the mission and objectives of the University are formation of "cultural intelligence" of its graduates, "true cultivation of mind" (the culture of the intellect). These – and not moral education, acquisition of diverse knowledge, ability to speak and behave well, or getting a profession – are the main purposes of *Liberal Education*.

University today still remains one of the most important social institutions of the society, a "supporting structure" of the latter. And a modern university library as a specific agent of culture in the university community should focus on such social priorities as sustainable progressive development of human civilization and reaching of harmony of a human being with himself/herself, with the society and with nature. For this reason today's library has to adhere to the following principles:

1. The university as a whole is a centre of culture-forming education.
2. Culture is a huge integral phenomenon, and the concept of culture has to include (and has always included) religion, science, education, moral and ethical standards of behavior of people and the state.
3. Culture is a set of texts, and library has always been their main repository; activities of the university's various departments are text-based; hence, a university library, or, more precisely, its information resources and services should be a key component of these departments' activities.
4. The main function of culture in a society and, therefore, the main function of university library is the humanitarian, i.e. "human-forming" one.
5. The mission of the university library as a trinity of institutions of culture, an information centre and a centre of social communications is to support and develop different forms and ways of transmitting knowledge accumulated by mankind in its history for benefits of the individual and society.
6. Due to the human nature the real world of social communications is extremely controversial, and, therefore, the efficiency of knowledge transmission depends on personal qualities of the people involved.
7. Dialogue is a must.
8. Using its physical and human resources, university library can contribute to the relationships, interactions and cooperation among various departments of the university, facilitate the fulfillment of its mission in the society and thus become a true integrating part of the university's cultural platform.

The BSU FL is still making its first steps towards the creation of such a cultural platform at the university. The 12th international conference "Management of

University Libraries: The Role of the University Library in Formation of Information Culture of a Specialist in the 21st century", held under the aegis of UNESCO and the Belarusian Library Association in Minsk on October 12–14, 2011, can be seen as the initial step. The conference gathered over 120 participants representing 24 Belarusian university libraries, 8 university libraries in Russia, Ukraine, Poland, Lithuania, Germany, as well as other library systems and departments. Key notes were made by sociologists, biologists, philosophers, linguists and philologists, which is a new trend, as librarians used to prevail at previous conferences on university libraries' management. While working out the conference programme the Organizing Committee members sought to identify the specific features and mechanisms of forming information culture (its ideological, cognitive, communicative, and practical components) in the higher education system and to summarize the experience of the university libraries of the CIS and foreign countries to form user information culture.

At the conference sessions different forms of surveys of user information needs satisfaction were discussed, stages of IL curricula planning and its expected outcomes, as well as measures for assessing training outcomes were demonstrated.

During the conference a Virtual Reading Room of the Digital Dissertation Library of the Russian State Library was opened at the FB BSU, and the following sections were conducted:

- Participation of the library in the development of information environment and information technology culture of users at the university;
- Contemporary issues and university environment's influence on the formation of a student's world view.

Conference participants worked out the following recommendations:

1. Establish an international initiative group of conference participants, representatives of university libraries, to interact with each other in order to solve the problems of forming information culture of students at the university.
2. Work out categories of personal information culture as an interdisciplinary research area.
3. Create a database (repository) of methodical materials accessible via the Internet to assist formation of information culture of university library's users.

Final Document

The Moscow Declaration on Media and Information Literacy

The changing media landscape and the rapid growth in information are affecting individuals and societies now more than ever. In order to succeed in this environment, and to resolve problems effectively in every facet of life, individuals, communities and nations should obtain a critical set of competencies to be able to seek, critically evaluate and create new information and knowledge in different forms using existing tools, and share these through various channels. This literacy creates new opportunities to improve quality of life. However, individuals, organizations, and societies have to address existing and emerging barriers and challenges to the free and effective use of information, including, but not exhausted by, the following:

Limited capacities, resources and infrastructure;

Censorship, limited information in the public domain, commercialization, privatization, and monopolization of information;

Lack of respect for cultural and linguistic diversity;

Excessive and inappropriate legal barriers to accessing, distributing and owning information;

Lack of awareness of long-term preservation of information, particularly personal digital information; and

Lack of cross-sectoral and interdisciplinary collaboration among stakeholders (between librarians and media educators, between mass media outfits and academic organisations, etc.).

With this context, the International Conference ***Media and Information Literacy for Knowledge Societies*** that was held in Moscow on 24–28 June 2012 aimed at raising public awareness of the significance, scale and topicality of the tasks of media and information literacy advocacy among information, media and educational professionals, government executives, and the public at large; at identifying key challenges and outlining policies and professional strategies in this field; and at contributing to improving international, regional and national response to Media and Information Literacy (MIL) issues.

The Conference was organized by the Ministry of Culture of the Russian Federation, the Federal Agency for Press and Mass Communications, the Commission of the Russian Federation for UNESCO, UNESCO Information for All Programme and UNESCO Secretariat, the International Federation of Library

Associations and Institutions (IFLA), the UNESCO Institute for Information Technologies in Education, the Russian Committee of the UNESCO Information for All Programme, and the Interregional Library Cooperation Centre, within the framework of Russia's chairmanship in the Intergovernmental UNESCO Information for All Programme.

The Conference gathered nearly 130 participants from 40 countries representing all continents: executives and experts of key specialized international governmental and non-governmental agencies and organizations; leading world experts in the field of knowledge societies building; leading researchers and professors of journalism, librarianship and education; executives and representatives of government authorities responsible for educational institutions, libraries, and print and electronic media; representatives of international and national associations of media and information literacy professionals; representatives of organizations and institutions engaged in publishing professional literature on media and information literacy; and media practitioners.

The Conference participants agreed on the following:

1. Media and Information Literacy (MIL) is a prerequisite for the sustainable development of open, plural, inclusive and participatory knowledge societies, and the civic institutions, organizations, communities and individuals which comprise these societies.

2. MIL is defined as a combination of knowledge, attitudes, skills, and practices required to access, analyse, evaluate, use, produce, and communicate information and knowledge in creative, legal and ethical ways that respect human rights. Media and information literate individuals can use diverse media, information sources and channels in their private, professional and public lives. They know when and what information they need and what for, and where and how to obtain it. They understand who has created that information and why, as well as the roles, responsibilities and functions of media, information providers and memory institutions. They can analyze information, messages, beliefs and values conveyed through the media and any kind of content producers, and can validate information they have found and produced against a range of generic, personal and context-based criteria. MIL competencies thus extend beyond information and communication technologies to encompass learning, critical thinking and interpretive skills across and beyond professional, educational and societal boundaries. MIL addresses all types of media (oral, print, analogue and digital) and all forms and formats of resources.

3. The MIL concept builds on prior international documents such as the Prague Declaration "Towards an Information Literate Society" (2003); Alexandria Proclamation "Beacons of the Information Society" (2005); Fez Declaration on Media & Information Literacy (2011); and the IFLA Media & Information Literacy

recommendations (2011). MIL underpins essential competencies needed to work effectively towards achievement of the UN Millennium Development goals, the UN Declaration on Human Rights, and the goals promoted by the World Summit on the Information Society.

4. In order to achieve these goals, individuals, communities, businesses, organizations and nations continually need information about themselves and their physical and social environments, and an understanding of the many different media through which such information is found, understood and communicated. Yet the media are in a constant state of change. New technological developments continue to alter the parameters of work, leisure, family life and citizenship. All around the world, people are living in an environment increasingly defined by the convergence of different media, interactivity, networking and globalization. Particularly (but not only) for younger people, the importance of media and peer networks has increased, and a greater part of growing up takes place outside the traditional learning environments. The creation of media today no longer lies in the hands of a limited group of professionals; now everyone can generate it.

5. At the same time, digital divides remain significant. Many people in developing countries have no access to information and media at all. Even in the developed world, limitations are placed on physical access to technologies and many people at all levels lack the critical and higher-order thinking skills needed to make informed decisions and solve problems in every aspect of life (e.g., personal, social, educational, professional aspects at local, national, regional and international levels).

Considering all the above, the participants of the International Conference *Media and Information Literacy for Knowledge Societies* address heads of state; the UN system (particularly UNESCO), IGOs, NGOs; education and research institutions and professional associations; media institutions; cultural and social institutions; networks; and the business and industry sector with the following proposals:

a. Recognize that MIL is essential to the well-being and progress of the individual, the community, the economy and civil society;
b. Integrate MIL promotion in all national educational, cultural, information, media and other policies;
c. Outline responsibilities, develop capacity and promote collaboration between and among the different stakeholders (government, educational, media and youth organizations, libraries, archives, museums, and NGOs, among others).
d. Encourage education systems to initiate structural and pedagogical reforms necessary for enhancement of MIL;

e. Integrate MIL in the curricula including systems of assessment at all levels of education, *inter alia*, lifelong and workplace learning and teacher training;

f. Prioritize support to networks and organizations working on MIL issues, and invest in capacity building;

g. Conduct research on and develop tools for MIL, including frameworks for understanding, evidence-based practices, indicators and assessment techniques;

h. Develop and implement MIL standards;

i. Promote MIL related competencies which support reading, writing, speaking, listening and viewing;

j. Encourage an intercultural dialogue and international cooperation while promoting MIL worldwide;

k. Invest in processes which support long-term preservation of digital information;

l. Promote and protect the rights to freedom of expression, freedom of information, right to privacy and confidentiality, ethical principles and other rights.

This document was produced through a collaborative process involving participants from the following 40 countries: Argentina, Australia, Azerbaijan, Bangladesh, Belarus, Brazil, Canada, Cape Verde, China, Croatia, Egypt, Finland, France, Germany, Hungary, India, Iraq, Israel, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lebanon, Lithuania, Malaysia, Mexico, Moldova, the Netherlands, Norway, the Philippines, Poland, Qatar, the Russian Federation, Serbia, Sudan, Turkey, Ukraine, the United Kingdom, the United States of America, and Zambia.

Annex
Media and Information Competencies Catalogue

Prepared by The Modern Poland Foundation within the UNESCO Information for All Programme

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I. USE OF INFORMATION

Formal education – children

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
Sources of information	• they know that information exists in different forms; e.g. they understand what the basic differences between an image, text, film and website are. • they know that there are different sources of information (TV, Internet, radio, books, newspapers, other people). • they know how to use selected sources of information; e.g. they search for information about a favourite animal using a picture dictionary or by talking with a parent/teacher.	• they know what the most important sources of information tailored to their age and level of education are and they know how to use them; e.g. they use printed and electronic encyclopedias and dictionaries for children. • they know how to use a school library following teacher's instructions; e.g. they choose readings based on teacher's advice. • they know that the information from different sources may vary.	• they know what the basic criteria for evaluating sources of information are, e.g. they know what reliability, ease and efficiency of use are, as well as accessibility in relation to sources of information. • they know how to choose sources of information, guided mainly by the criterion of reliability, e.g. they are able to use reliable sources such as encyclopedias and dictionaries, both printed or electronic. • they know how to use the school library resources, independently selecting readings and choosing appropriate sources of information for specific tasks. • they know that the quality of information sources is essential to obtain good work results.

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
Searching for information	• they know where to find adults' help in the process of collecting information; e.g. they ask a parent to find a piece of information for them.	• they know that the "computer language" is different from spoken language, e.g. they know that the computer always does what it is told, so you need to learn how to give commands. • they know how to use the basic search techniques in traditional and electronic sources. • they know that operations on sets can be used when searching for information; e.g. they can apply simple logical operators (cat AND/OR dog, etc.). • they know how to use simple personal and subject entries, type in simple queries in the search engines and encyclopedias; e.g. they search for information on their favorite animal in a picture dictionary, electronic encyclopedias for children and on the Internet. • they understand that the ability to find information will be very useful in life, e.g. they understand that they will make different decisions based on the information found.	• they know what the basic differences in the construction of entries in natural language and in the language of an information system are; e.g. using the example of subject entries they see differences in description of animals. • they know that there are different models of information behaviour. • they know how to find information in given traditional and electronic sources. • they know how to formulate simple information queries; e.g. find a train timetable. • they know that information queries need to be formulated carefully. • they know that the search result depends on how the query is formulated.

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
Critical approach to information	• they know that if the information raises doubts, they should discuss it with their parents or pre-school teacher. • they know how to ask a question about the reliability of information; e.g. they ask questions “Mom, is it true that ... “	• they know that information may be incorrect, incomplete, inaccurate. • they know that it is good to think about and talk about how to use the information. • they know that the sender of information may want to influence them and provoke specific behaviour. • they know how to tell the difference between true and false information, guided by their intuition.	• they know that information varies depending on the intentions of the sender; e.g. they compare how the same information is presented in different media. • they know that poor quality information leads to wrong conclusions. • they know how to question the reliability of information. • they know how to verify the information by comparing it in various sources. • they know the difference between information and gossip. • they understand what manipulation of information is.

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
Use of information		• they know that the information resources need to be organised in order to be easily managed and retrieved when necessary. • they know how to enter, save and retrieve their work results; e.g. they store the results of their work using a text editor. • they know how to use simple diagrams to organise information, combine and organise the material; e.g. they sort, classify, create and describe directories and folders.	• they know that the presentation of the results of their work should take into account the audience's needs. • they know how to use ICT to create, improve and save work; e.g. they know how to use email to send their work to colleagues. • they know how to use ICT to share their ideas with others, using various forms of information presentation; e.g. together with their colleagues they create a project, using text, charts and illustrations. • they know how to efficiently organise their own information resources in order to facilitate their use. • they understand what the consequences of failure to process and organise information are. • they understand what the needs of particular groups of audience in the presentation of information are; e.g. they adjust the way a message is presented depending on the group they address it to – peers, parents or teachers.

Formal education – young people

Issue	Lower secondary school	Upper secondary school	Higher education
Sources of information	• they know that information sources must be chosen consciously, bearing in mind the information needs and the purpose of the information. • they know how to skilfully choose sources of information used in the learning process, guided by the specific selection criteria; e.g. depending on the situation they use Wikipedia or other sources. • they understand the consequences of using inappropriate sources of information when studying. • they understand differences between the channel and the source of information.	• they know what the most important sources of scientific information are and know how to use them at the most elementary level; e.g. they use electronic catalogues of academic libraries. • they can choose sources of information, taking into account additional criteria such as relevance, efficiency and ease of use. • they understand the importance of selecting appropriate information sources for the results of their work. • they understand the reasons for limitations of the organisation of information systems, e.g. they understand the consequences of the fact that information-query languages are artificial.	• they know the difference between sources of information used in scientific work and everyday life. • they know how to choose the optimum sources of scientific information. • they know how to select information systems according to the work needs. • they understand what the consequences of inappropriate use of sources in academic work are. • they understand the need for references to the sources used, e.g. they know how and why footnotes and bibliography should be used.

Issue	Lower secondary school	Upper secondary school	Higher education
Searching for information	• they know about the basic techniques and strategies for finding information, such as a strategy to narrow the search results. • they know how to search for information in traditional and electronic sources, such as websites, blogs, portals and printed materials. • they know how to use complex search strategies based on the known models of information behaviour adapted to the situation. • they know how to use selected search techniques, such as using Boolean operators. • they know how to build a query in the language of an information system.	• they know more complex search strategies. • they know how to efficiently search for information, building search strategies based on the most important models of information behaviour. • they know how to translate information query expressed in the natural language into the language of information system.	• they know how to search for scientific information in a variety of sources. • they know how to fluently use the most important sources of scientific information, e.g. they proficiently use library catalogues, using the advanced options, as well as databases of scientific literature. • they know how to design an effective strategy for information search.

Issue	Lower secondary school	Upper secondary school	Higher education
Critical approach to information	• they know that one should always be critical to the source. • they know what sources to use to verify the information, e.g. they use an encyclopedia to confirm information found on the blog. • they know how to select information by checking its accuracy. • they know how to evaluate the use of ICT in their work. • they know how to determine the differences between information and other messages, including opinion, judgment, criticism; e.g. they compare articles from various newspapers, discussing their characteristics. • they know how to distinguish features and functions of information and gossip, e.g. they compare two texts from a daily newspaper and a tabloid.	• they know that the ability to critically evaluate information is crucial in the process of task completion. • they know that the information sources and ICT tools used at work have their disadvantages, advantages and limitations. • they are able to present arguments on disadvantages, advantages and limitations of information sources and ICT tools. • they understand the consequences of the lack of a critical approach to the use of information sources and ICT tools. • they understand the consequences of taking a particular position in working with information; e.g. they understand that the results of a poll on political preferences can be interpreted differently depending on the beliefs and political sympathies of its author.	• they know how to use the results of discussions on the shortcomings, advantages and limitations of information sources and ICT tools to evaluate the quality of their work. • they understand the impact on the development of the ICT sector of factors such as law, ethics, economics, and use this knowledge in the process of completing information tasks.

Issue	Lower secondary school	Upper secondary school	Higher education
Use of information	• they know how to properly present the results of their work; e.g. they know that the presentation must be clear, contain not too much text and a variety of illustrations. • they know how to add, improve and connect information in various forms, taken from different sources. • they know how to use ICT in the process of presenting the results of their work such as multimedia presentations; they know how to prepare and deliver public speeches. • they know how to organise information in the most appropriate manner.	• they know how to develop and improve the results of their work using ICT. • they know how to combine information from different sources, in an appropriate way to present them to the audience. • they know how to select appropriate ICT tools to carry out specific tasks. • they understand the reasons for limitations of using ICT in carrying out certain tasks; e.g. they understand the limitations of having to algorithmise any work so that it can be performed by ICT tools.	

Lifelong learning

Issue	Minimum level	Optimum level	Master level
Sources of information	• they know what the most important sources of information in the modern world are. • they know that information sources must be chosen consciously, bearing in mind the information needs and the purpose of the information. • they know how to use the main sources of information to meet their information needs. • they know how to intuitively assess the credibility of information sources. • they know how to choose sources of information, taking into account criteria such as reliability, relevance, ease and efficiency of use. • they understand the significance of information in the 21st century. • they understand that the information will vary depending on the source of origin, and the intentions of the sender.	• they know that decisions should always be made based on relevant and reliable information. • they know what the most important models of information behaviour are. • they know how to fluently choose sources of information used in the learning process, guided by the relevant criteria. • they understand the importance of selecting appropriate information sources for the results of their work.	• they know what the organisation of information sources and the flow of information in society are. • they know how to choose an efficient source of information, depending on the activity and specifics of the task. • they understand what the consequences of using inappropriate sources of information are in relation to the effects of work and the task to be completed.

Issue	Minimum level	Optimum level	Master level
Searching for information	• they know that searching for information requires appropriate skills. • they know that information queries need to be formulated carefully. • they know how to use the basic search techniques in traditional and electronic sources. • they know how to use simple personal and subject entries, enter query information in the search engines and encyclopedias. • they know that the search result depends on how the query is formulated. • they understand the implications of basing their decisions on incomplete or outdated information.	• they know what the basic techniques and strategies for information search are. • they know what the most important models of information behaviour are. • they know what the basic differences are in the construction of natural language and the language of the information system. • they know how to efficiently search for information, building search strategies based on the most important models of information behaviour. • they know how to use advanced information search techniques. • they know how to add, improve and connect information in various forms, taken from different sources.	• they know complex search strategies. • they know how to design an effective strategy for information search.

Issue	Minimum level	Optimum level	Master level
Critical approach to information	• they know that the sender of information may want to influence them and provoke specific behaviour. • they know that the intentions of the sender and the specifics of the medium has a decisive influence on the content and form of the information. • they know what the basic criteria for evaluating sources of information are. • they know intuitively how to tell the difference between true and false information. • they know how to question reliability of the information. • they know how to verify the information by comparing it in various sources. • they are able to notice the differences between information and other messages, including opinion, judgment, criticism. • they understand what manipulation of the information is.	• they know that the ability to critically evaluate information is crucial in the process of completing tasks. • they understand the consequences of taking a particular position (ideological, political) in working with information.	• they understand the impact of factors such as law, ethics, economics on the development of the ICT sector, and use this knowledge in the process of completing information tasks.

Issue	Minimum level	Optimum level	Master level
Use of information	• they know that presenting the results of their work should take into account the audience needs. • they know how to enter, maintain and retrieve the work results. • they know how to use ICT to create, improve and save their work. • they know how to select the information needed by checking its accuracy.	• they know that the information sources and ICT tools used at work have their disadvantages, advantages and limitations. • they know how to use ICT in the process of presenting the work results. • they know how to evaluate the use of ICT in their work. • they know how to use the results of discussions on the shortcomings, advantages and limitations of information sources and ICT tools to evaluate the quality of the work. • they understand the reasons for limitations of the organisation of information systems.	• they know how to combine information from different sources in an appropriate way to present them to the audience. • they know how to choose ICT tools corresponding to specific tasks. • they understand the consequences of the lack of a critical approach when using information sources and ICT tools.

II. RELATIONS IN THE MEDIA ENVIRONMENT

Formal education – children

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
Image	• they know what the specific features of themselves and the nearest surroundings are; e.g. they recognise the general similarity of places and objects in the media, notice the same bike or playground. • they know how to differentiate themselves against others (they have the sense of being an individual), e.g. they recognise in pictures or film materials their individual characteristics in comparison with others (height, hair colour).	• they know that not always and everywhere people should disclose information about themselves; e.g. when talking to a newly met person on an on-line chat, they do not give out their phone number or e-mail. • they know how to discern differences between own personality, abilities and skills and attributes of game characters; e.g. while playing a computer game, they are aware that after quitting it they will not have three “lives” as their avatar.	• they know that the image can be built and presented in various ways; e.g. they are aware that the person on the other side of the screen may pretend to be somebody else than they really are. • they know which activities in the media environment can have negative consequences for them or others; e.g. they know that a funny movie with their presence, posted on-line spontaneously, may someday be used against them or make someone upset. • they know how to consciously create their image on the basic level; e.g. when registering on a new site, they follow safety guidelines and choose what information about themselves they share.

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
Communication	• they know how to express their elementary needs and emotions concerning the media; e.g., in contact with a medium (a book or game) they show what they like, they choose a book which they want to read. • they know how to use communication channels available to them; e.g. they distinguish different ways of using various media at an elementary level, they know that the radio (music) is to listen to, and television (video) is to watch.	• they know how to use different types of messages (formal and informal); e.g. they recognise that they communicate through different channels and in a different way with their classmates and a teacher. • they know how to use basic communication tools; e.g. they communicate via a mobile phone and instant messengers. • they know what the basic types of messages are and know their functions (image, sound, word); e.g. can match a musical element to a corresponding illustration.	• they know how to create messages depending on the context; e.g. they will write a fragment of a blog and an e-mail to a teacher in different manners. • they know how to find people who share their interests on the Internet and they are able to communicate with them; e.g. they can start a new topic on a forum or join an already existing mailing group. • they know how to choose tools/ technologies, depending on the communication needs; e.g. they consciously enable or disable a webcam during instant messaging conversations. • they understand the process of direct communication and communication through media; e.g. they can explain the differences and similarities between a sender and a receiver of the message, and they take responsibility for the communicated content.

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
Environment	• they are able to notice in media coverage familiar elements of their environment; e.g. they distinguish from the media content familiar places. • they intuitively know how to use, at an elementary level, the media available in their surroundings, e.g. they will turn the TV to a channel with cartoons or start application with their favourite game on the phone without any help.	• they know that the world portrayed in the media is not the same as the world experienced directly; e.g, they recognise that not everything that is possible in games, is also possible in reality. • they know about the hygiene and safety rules of using the media; e.g. they are aware that they should not stay too long in front of the TV set or computer screen. • they know that thanks to the media we can explore the world; e.g. they recognise that on a selected TV channel or on the Internet people can see distant things which are unknown in the nearest surroundings, such as in nature programmes. • they know how to use various sources and channels of information; e.g. they can look for information on the Internet.	• they know the opportunities and risks related to the the use of different media; e.g. they are aware that they should be careful when dealing with strangers met on-line. • they know how to actively use the new media; e.g. they can subscribe to a mailing group and take an active part in it or join a chat. • they are able to consciously use different channels of information, e.g. they find several different sources relating to the same information and review them. • they understand the basic principles of safety in the digital space; e.g. they do not download content from unknown or untrusted sources on the Internet.

Formal education – young people

Issue	Lower secondary school	Upper secondary school
Image	• they know how to create and modify their image depending on their needs; e.g. when joining a group on the network, they share only selected information about themselves. • they understand the opportunities and risks of building their own image; e.g. they pay a lot of attention to what information about them is available on the Internet and where; they are aware that even after deleting some content on-line some trail always remains.	• they know what the components of the image are and how to interpret them; e.g. they are aware that public figures use words and body language to achieve particular purposes (e.g. to obtain the support of voters). • they know how to consciously create their image depending on the context; e.g. when typing comments on social networking sites, they realise that they become a part of their identity in the eyes of others, including future employers. • they understand the consequences of and the need to consciously build their own image; e.g. they don't allow to accidentally take photos of them during parties.
Communication	• they know what the rules of communicating with other users of media are; e.g. they know and can apply the rules of netiquette. • they know how to use different types of messages to convey specific content depending on the purpose and needs; e.g. they are aware that a picture can sometimes express more than many words. • they know what fan-communities and the phenomenon of fanfiction are; e.g. they know how to create social networks on the Internet, including the groups that gather members of fan subcultures.	• they know what factors may influence the course of communication; e.g. they realise that the right reception of their message by telephone or e-mail depends on the situation and capabilities of the recipient. • they know how to effectively and accurately communicate with others, using various communication channels.

Issue	Lower secondary school	Upper secondary school
Environment	• they know what the general principles of media operation are and they are able to use various media tools depending on the specific environment; e.g. they communicate via a mobile phone, instant messenger or by writing on the forum when needed. • they know how groups and environment influence their lives; e.g. they notice the impact of comments on their entry on a social network on their own choices, decisions and preferences. • they are able to actively participate in selected on-line communities; e.g. they exchange information, express opinions and lead discussions on various social networks on the Internet.	• they know that different groups existing in the media environment have their specific nature, functioning rules and dynamics; e.g. they point out differences between on-line communities of people who have never met and those who know each other from school. • they know how to use the potential of social networks for their own purposes; e.g. they can find a desired product or service and they are able to receive feedback from other users about it. • they understand the processes of group formation and building social networks; e.g. they see differences in the way of participation in a group of people gathered spontaneously and a parallel group of players that meet regularly on-line.

Lifelong learning

Issue	Minimum level	Optimum level	Master level
Image	• they can identify elements of their own and other people's on-line image. • they know how to join a chosen community and participate in its life by creating their own image in a proper way; e.g. they are actively involved in various hobby, educational, therapeutic or political groups. • they understand the differences between the world experienced directly and through media, they are aware of the connections between them; e.g. they create profiles on social networks, bearing in mind their image, as they are aware of the possible consequences of neglecting it, including impact on their career path.	• they know how to build networks of contacts – persistent and task-oriented; e.g. depending on the context, they modify their image on the network to suit the needs of different environments and roles. • they can consciously and responsibly build their network image and they are able to use it to achieve specific aims; e.g. they use their blog to build their position in a professional environment. • they understand the difference between permanent and ephemeral images; e.g. they create their image differently when setting up a profile on a social network, on a specialized forum and on a chat. • they understand the opportunities and benefits of belonging to a group; e.g. they can use this knowledge in planning their career, by joining a group of experts in a specific field and creating profiles on specialist social sites.	• they can build on-line communities co-creating their digital environment and create collective identities, such as hobby or political groups; e.g. they run a forum themselves, administer a website, or create digital tools needed. • they are able to shape their own image on the web according to different contexts; e.g. within the same social networking site, they can create several, often very different, images depending on the context and needs.

Issue	Minimum level	Optimum level	Master level
Communication	• they know that anonymity on the web is often illusory, they realise that every move on the Internet leaves a trail. • they avoid socially unacceptable behaviour in the communication process, e.g. they do not provoke arguments, use insults, troll, etc. • they know how to behave assertively and communicate effectively in the media environment; e.g. they are able to express their opinions, wants, needs and feelings in a clear, open and honest way, and reject proposals that could pose a threat. • they know how to distinguish false, propaganda messages that are designed to manipulate; e.g. when watching a TV commercial, they spot various elements of manipulation. • they understand differences between formal and informal communication, e.g. when creating a message, they take into account the specificity of the recipient and the situation context. • they know how to find people who share their interests on the web and are able to communicate with them; e.g. they can start a new topic on a forum, or join an already existing mailing group.	• they know rules of communication with other users of media, e.g.,they know and can apply in practice rules of netiquette. • they know what factors may influence the course of communication; e.g. they realise that the correct reception of their message by telephone or e-mail depends on the specific situation of the recipient. • they are able to interact with people living in different parts of the world, they know how cultural differences can influence the process of communication; e.g. they can actively participate in international communities.	• they can identify illegal or socially unacceptable actions committed by or against other members of the community and they can respond to them; e.g. being a forum administrator, they moderate and verify the process of information flow. • they know how to fight against information barriers, digital exclusion and information asymmetry; e.g. they can create educational materials and appropriate media tools for people who have difficulty finding their way in the media environment.

Issue	Minimum level	Optimum level	Master level
Environment	• they are able to use new technologies to the level necessary to participate in the information society. • they are able to actively participate in chosen on-line communities, e.g. they exchange information, express opinions and lead discussions in various social networks on the Internet. • they know the rules of hygiene and safety of using the media. • they know how to build their relations in the media so that they do not hinder the direct relations, e.g. they use media to complement direct contacts rather than to replace them.	• they know that the Internet is more than just a medium; they are aware that this is a new kind of reality, where parallel life takes place, often as real as life outside the cyberspace, and communication through media is just another equally legitimate method of communication. • they understand the risks of addiction to the Internet. • they know that different groups existing in the media environment have their specific nature, modes of functioning and dynamics; e.g. they can describe differences between on-line communities of people who have never met and those who know each other from work. • they know how to use the potential of social networks for their own purposes; e.g. they can find a desired product or service and receive feedback from other users about it.	• they know how to manage IT infrastructure; they have appropriate technical skills allowing the selection of specific tools and technologies for specific tasks; e.g. they can create a website or a web service from scratch and successfully position them. • they understand the processes of group formation and building social networks, they know how to manage them.

III. LANGUAGE OF MEDIA

Formal education – children

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
Linguistic nature of different media	• they know that characters known from the media and portrayed on TV may be fictitious; e.g. they know that television characters from cartoons such as Gummy bears or Donald Duck do not exist in reality, they are merely products of human imagination. • they understand the difference between direct conversation and communication through media, e.g. they know that during a telephone conversation we hear only the voice of the caller, but they may be far from us. • they know that there are different ways of recording and transmitting words, images and sounds; they also know that people can transmit the same content through different devices, e.g. they know that people can record and play back the sounds of nature and their own speech, draw, and then scan the drawing and watch it on the computer, TV or phone.	• they know that visual communications, even presenting real existing characters, differ from a meeting in the real world, e.g. the characters seen on the television, the cinema or the computer screen may look different when we meet them in person. • they know how to distinguish between the everyday language which we speak to parents and peers, and the words coming from the television, e.g. they know the difference between the language heard in cartoons, sport broadcasts and the everyday conversation.	• they know the concept of analog and digital technologies, e.g. they know that digital media are based on encoding messages in a binary form. • they can describe in their own words simple differences between analog and digital records, and they can name examples of devices for recording and playback in both technologies, e.g. they know differences between digital photography and photography using film and how it is created. • they know the basic concepts related to the language of film and photography, both analog and digital, e.g. they know what frame, capture, editing are, they know the process of creating photography and film in analog and digital technology.

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
	• they know and are able to distinguish various devices used to transmit information, e.g. they know how to identify, name and describe in their own words what radio, television, a computer connected to the Internet, a mobile phone are used for.	• they know different forms of audio and audiovisual messages, they can indicate the differences between them and the way they are received; e.g. they can tell the difference between a story on DVD, one broadcasted on television, one recorded in the form of audiobook, printed in a book form or published as an e-book. • they know the difference between text, audio and video messages; they can point out the advantages and limitations in receiving these messages, e.g. they know that reading the printed word requires more attention than television because the print has more impact on our thoughts and television on emotions; they know that listening to the radio allows to do other things at the same time and engages our attention the least from the above.	• they understand the concept of multimedia as a technology integrating different communication techniques, e.g. they know that such techniques combine sound, print, photos and films. They know that thanks to digital technology, we have a greater opportunity to not only modify, but also combine communications of different formats.

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
Functions of media messages	• they know that certain media messages can encourage us to do something, e.g. to purchase a particular product, toy, or perform some action, such as watch cartoons on TV. • they know which messages are to entertain and which are related to serious issues or inform about certain events, e.g. they are able to distinguish between a fairy tale and a children's programme, which serves news.	• they are familiar with the concept of advertising and they are able to identify forms of advertising that surround them, e.g. they can recognise and compare the advertisements on the streets, in newspapers, television and on the Internet. • they are able to distinguish between media messages that trigger various emotions, such as fear, sadness, joy.	• they know the basic elements that any media information should contain; e.g. they are able to analyse television news in terms of questions: why, who, what, when, where. • they understand the difference between information and opinion and they know how to create messages of different functions, also in the social media; e.g. they know how to share information on a social or cultural project and express their opinion, they see the difference between these two types of media statements.

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
Culture of media communication	• they can express their opinion on a media message and justify it in their own words; e.g. “I like this cartoon because the characters are funny”. • they know that words and images convey specific meaning; e.g. they know that information might be delivered through words or through images.	• they can evaluate a media message in terms of aesthetics, justifying their opinion; e.g. they can say that the special effects in a movie are interesting, but the story is poor, and the main character can be admired because... • they are able to use emoticons in SMS and Internet communication; they know “:-)” and “:-(“ symbols. • they know and understand differences between communicating using words and gestures; they know “OK” gesture (thumb up) or “V” (victory), they know gestures considered insulting in a given culture.	• they understand the phenomenon of media culture vulgarisation and can select messages or programmes that act against it; e.g. they can criticise a game or a film due to their low value (simple entertainment, lack of message, poor audiovisuals and sound, aggression). • they can translate emotions encoded in emoticons to phrases that express them and explain the reasons; e.g. they use sentences such as “I am sad and disappointed because...” instead of “:-(“.

Formal education – young people

Issue	Lower secondary school	Upper secondary school	Higher education
Linguistic nature of different media	• they understand the concept of hypertext, and they can explain the difference between hypertext and linear text, e.g. they know that hypertexts are electronic texts with links and references, which facilitate the creation of associations and knowledge, they know that reading hypertexts is different from reading a printed book. • they know how to distinguish between basic television and film genres; e.g. they can in their own words describe features of a thriller, romantic comedy, documentary series, talk show. • they understand the convergence of media genres, e.g. they are aware that traditional radio and television programmes can be received via the Internet in the form of podcasts, videocasts or streaming, they know how it affects the content of messages.	• they know characteristics that differentiate textual message adapted to different media; they can adjust a form of communication to the medium, e.g. they know the difference between a text written in a linear form, website, e-mail, instant message, SMS, post on a social networking site, booksprint. • they understand the concept of the interface in user-medium relations; e.g. they can characterise the differences in using a tablet and a newspaper, a graphical user interface (GUI) and a textual interface of computer applications. • they understand the concept of screen, they can describe its role and changes in the audiovisual culture; e.g. the are able to distinguish between watching a film in the cinema, on TV or a computer/ tablet.	• they understand the concept of media representations of reality and they are able to point out its role and limitations in cognition, e.g. they can describe how authors construct media messages and how audiovisual communications differ from direct perception of reality, why we say they are the “images “ of reality. They can explain the phenomenon of telepresence of the subject of cognition in philosophical terms. • they understand the concept of text in a broad cultural sense, the concept of encoding and decoding, sign and semiotics; e.g. they know how we perceive a film, a sculpture, architecture as a complex cultural text consisting of signs and language codes.

Issue	Lower secondary school	Upper secondary school	Higher education
	• they recognise how the same text of media culture can be represented using different media and advertisement, such as websites, cinema films and DVD, gadgets related to series of books about Harry Potter.		• they understand the concept of new media literacies, e.g. they can describe in terms of media genre not only audiovisual communications, but also social networks, video games, they are able to analyse and characterize the image of the world created by these messages.
Functions of media messages	• they know how to take part in discussions, form their own opinions in social media, while respecting other debaters and focusing on the substance of the message; e.g. they know basic rules of linguistic etiquette in Internet communications. • they know how to persuade others, justifying their views and finding examples that support them, e.g. they can present their position, summarise it in bullet points, illustrate it with examples, use images and statistics presented in a visual form.	• they know how to create informational and advertising messages, e.g. about social and cultural initiatives that they are involved in. • they know that some informational messages may contain elements of entertainment, they can point out examples of this combination in various types of media, e.g. they are able to point out what in a selected audiovisual message is a part of a television show and what has some educational value.	• they are familiar with issues of contemporary theories of influence on society, including both advertising and marketing elements, e.g. they can point out examples of the techniques used by politicians or sellers in audiovisual communications in order to convince us to their rights or product. • they understand the concept of infotainment and edutaintment, they can combine elements of education based on verbal communications with audio or visual representations, e.g. they know how to create notes, presentations, which include not only information but also visual messages expressing certain emotions, they can use language of anecdotes and humor in presenting information.

Issue	Lower secondary school	Upper secondary school	Higher education
Culture of media communication	• they know basic terms used in aesthetics and cultural critics; e.g. they can write a review of a media programme/project, using examples and comparisons to other audiovisual works. • they understand the importance of gestures, mimics, posture or distance of one person from the other and they can point out examples of it in media communications; e.g. based on the way politicians behave in the TV studio they can identify their attitude to discussed matters.	• they understand and are able to describe rules of *savoir vivre* related to communications through media; e.g. they know the appropriate time to call a certain person depending on their role or how the guests in a TV studio should be addressed, etc. • they can apply appropriate enunciation, intonation and body language during direct communication and use symbols in audiovisual communication; e.g. they match illustrations to presentations expressing different emotions or attitudes.	• they can use basic rhetorical concepts; e.g. they can prepare and deliver a public speech during their university class or take part in a radio or TV programme. • they understand the issues of communication and media culture; e.g. they are able to describe basic communication models and the nature of cultural changes (e.g. in a language) caused by the technological development.

Lifelong learning

Issue	Minimum level	Optimum level	Master level
Linguistic nature of different media	• they understand the differences between media genres, e.g. they can distinguish between news programme, debate in a television studio, TV series, thriller, talent show and describe their main features. • they can produce informational messages in various forms, also via selected Internet modes of communication such as email, chat, voice messaging, Skype.	• they understand the specifics of genres of the media and other issues, concerning e.g. framing in the film, knowledge of the forms and rules of communication on the Internet and in on-line communities.	• they know how to create media communications (audiovisual, multimedia), competently using different genres of journalism and media; e.g. they can set up a website or a blog, prepare an amateur film, edit a local newspaper or an electronic newsletter, using appropriate applications.
Functions of media messages	• they recognise the difference between an informational message, opinion and persuasion; e.g. in advertising, in politicians' statements. • they distinguish between information and entertainment; e.g. they are able to describe which parts of a message have educational value and which parts are to provoke emotions.	• they are able to create correct, clear and consistent information messages, both oral and written, also using Internet communications such as email, chat, voice messaging. • they are able to use various media to form persuasive messages, such as an Internet forum. • they effectively use rhetoric in their messages, they can appeal to emotions if necessary, e.g. they are able to prepare and deliver a speech.	• they are able to formulate effective informational messages, both oral and written, adapted to different media; e.g. they confidently use journalistic, informational, formal and scientific language.

Issue	Minimum level	Optimum level	Master level
Culture of media communication	• they understand the specifics and need to adapt the language of communication to the audience needs, e.g. they know about psychological and social conditions of the language addressed to children, subordinates, superiors, officials, journalists. • they know the importance of the body language, recognise basic gestures, postures, facial expressions, understand the importance of proximity to other people in communication, adjusting intonation; e.g. they can point out examples from the public life.	• they know how to create media messages at work and in personal life. • they ensure logical, clear and legible communication of their messages. • they are able to take part and share their opinion in a radio, television programme or an on-line discussion, taking into account the discussion principles and respecting other debaters.	• they easily adapt their message to a specific person and a communication situation. • they fluently use the body language, also in public communication or dealing with institutional media. They are able to adapt their message to the media situation, genre and format. • they are comfortable being recorded, they have and apply knowledge of influencing others with body language and voice intonation. • they can pass on their knowledge and skills related to communication to others; e.g. they can conduct training and workshops concerning media education and communication etiquette.

IV. CREATIVE USE OF MEDIA

Formal education – children

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
Creation	• they know what media tools to use to prepare a photo, an audio recording, a short video, a drawing. • they know the basic concepts related to the use of media, such as “clicking” or “icon”. • they attempt to use the media tools, e.g. they use a touch screen or a mouse. • they know how to capture the subjective image of the world using media tools, e.g. they take photos of their toys.	• they know how to prepare with the simple equipment: a picture, a recording of own voice or surrounding sounds, they are able to record a short video, draw a simple image using appropriate software, write a short text in a text editor. • they are able to, together with other students, prepare a simple story using one type of media messages, e.g. a series of photos, taken by various students or series of drawings or series of video clips.	• they know how to prepare a simple photograph of the environment or the objects, they can record sounds on their own, they know how to make a short video, make a simple drawing in an appropriate programme, prepare a simple graphic form using software, prepare a short text in a text editor. • they know how to prepare in a group (with the support of a teacher/instructor) a simple media story using one type of media (elements are prepared by individual members of the group), with the addition of short text elements describing the scene, announcing the next event. • they try to create simple media narratives using a variety of communication components (digital storytelling).

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
Processing	• they know that a simple media content can be processed. • they attempt to use simple software to modify photos or graphics; e.g. they play with programmes to edit photos or drawing tools.	• they are able, at a basic level, to process the available media content (photos, graphics, video, sound) using simple software. • they know that analog content can be converted to digital form.	• they are able to process available and previously prepared media content (photos, graphics, video, sound). • in a group they can create digital narratives based on media contents that are previously modified, found or prepared by a team. • they are able to scan documents, photos, and perform basic editing using programmes to scan.
Presentation	• with the assistance of an adult, they show to the group the messages that they created or processed.	• they know how to present, using multimedia equipment (e.g. computer with a multimedia projector) media contents prepared individually or in groups.	• they know how to handle the overhead projector or other similar tools; e.g. they know how to use it to display individual messages – images, text, multimedia presentation slides, films, websites. • they know about websites, blogs, tools for collective creation of on-line contents.

Formal education – young people

Issue	Lower secondary school	Upper secondary school
Creation	• they know how to create their own set of photographs, film scenes, images, audio recordings, graphics on a chosen topic. • they know how to freely mix and match a variety of stored contents and create rich digital narratives on a chosen topic. • they know how to prepare in a group a narrative consisting of various media on a chosen topic, planning in advance group work in the editor of extended media or exchanging information about the preparation and project progress on a blog. • they know how to co-create in a group simple texts and multimedia presentations using tools for network cooperation.	• they know how to create a comprehensive set of diverse media contents on a chosen topic. • they know how to freely mix and match a variety of stored contents and they can build upon this basis more extensive digital narratives, e.g. collections and digital archives, blogs, wikis, a hypertext story, a website, an online newspaper or other forms of hypertext-based architecture. • they are able to complete in a group a media project with division of tasks concerning preparation of media constituents and their montage; e.g. they know how to organise work connected to the preparation of the group tasks, take part, using the media tools, in collaborative work, supervise the work of the group, use network collaboration technologies, such as educational portals, wikis, blogs, text editors or multimedia presentations co-created on-line, social networking sites. • they know how to co-create in a group texts and multimedia presentations using on-line collaboration tools. • they are able to document and comment on their environment and its processes, e.g. they can create a text, photographic, video or radio report, and other radio forms published in the form of a podcast, interview, they digitise artifacts.

Issue	Lower secondary school	Upper secondary school
Processing	• they are able to process previously found and prepared extensive collections of media contents consisting of photos, graphics, video, and audio content. • in a group they know how to create rich digital narratives, video, hypermedia projects based on contents modified by the participants of the group or found, processed materials. • they know how to independently digitise analog content, e.g. they are able to scan books, papers, documents, pictures.	• they are able to modify, at an advanced level, prepared and found extensive multimedia resources and hypermedia. • in a group, they know how to create advanced digital narratives, video, hypermedia projects based on contents or products modified by members of the group, complex media messages. • they can, working in a group, digitise analog contents; e.g. together with others they complete a digitalisation project.
Presentation	• they know how to use tools for synchronous presentation of content (on-line presentations in real time). • they know how to use asynchronous tools to present contents (on-line and off-line multimedia presentations). • they know how to use tools to conduct collective on-line communication with sound and video. • they know how to present contents on a blog, also using tools to create contents collectively. • they can prepare in a group contents using wiki system, set up and moderate network discussions via mailing list, forum and social networking sites. • they know the basic principles of Internet journalism and after previous preparation they can publish content about life in their community; e.g. they know what “citizen journalism” is and they try to act as citizen journalists. • they know how to create simple digital archives consisting of digitised material.	• they know how to use content management systems, manage lists of authors and published contents, add, edit and delete contents using tools such as blog or office suite. • they know how to share information on their own or group work; e.g. they know how to use social media to create a publication on a specific topic. • they know how Internet editorial team works; they can use basic journalistic skills to publish current information (previously prepared on their own or in a group) about the life of their community. • they know how to create complex digital archives of digitised material.

Lifelong learning

Issue	Minimum level	Optimum level	Master level
Creation	• they know how to create their own set of photographs, film scenes, images, audio, graphics on a chosen topic. • they can freely mix and match a variety of stored contents and create simple digital narratives on a chosen topic. • they know how to prepare in a group a narrative consisting of various media on a chosen topic, planning in advance group work in the editor of extended media or exchanging information about the preparation and project progress on a blog. • they know how to co-create in a group simple texts and multimedia presentations using tools for network cooperation.	• they know how to create a comprehensive set of diverse media content on a chosen topic. • they know how to freely mix and match a variety of stored content and they can build upon this basis extensive digital narratives, e.g. collections and digital archives, blogs, wikis, a hypertext story, a website, an on-line newspaper or other forms of hypertext-based architecture. • they are able to complete in a group a media project with the division of tasks concerning preparation of media constituents and their montage; e.g. they know how to organise work connected to the preparation of the group tasks, take part, using the media tools, in collaborative work, supervise the work of the group, use network collaboration technologies, such as educational portals, wikis, blogs, text editors or multimedia presentations co-created on-line, social networking sites. • they know how to co-create in a group texts and multimedia presentations using on-line collaboration tools. • they are able to document and comment on their environment and its processes, e.g. they create a text, photographic, video or radio report, and other radio forms published in the form of a podcast, interviews, they digitise artifacts.	• they know how to co-ordinate the activity of a team preparing the content of a media project. • they can teach others how to gather contents and build upon them extensive digital narratives. • they know how to supervise a media project, share tasks of preparing the media components and the montage of the gathered items or their collections, they can organise work of several teams conducting a joint media project. • they can teach others how to prepare presentations, they can create media presentations at a professional level. • they know how to conduct training on documenting their environment and its processes, e.g. creating text, photographic, video reports, radio reports and other publications in the form of radio podcast, interviews, digitising artifacts.

Issue	Minimum level	Optimum level	Master level
Processing	• they are able to process previously found and prepared extensive collections of media contents consisting of photos, graphics, video and audio contents. • in a group they know how to create rich digital narratives, video, hypermedia projects based on contents modified by the participants of the group or found, processed materials. • they know how to independently digitise analogue content, e.g. they are able to scan books, papers, documents, pictures.	• they are able to modify, at an advanced level, prepared and found extensive multimedia resources and hypermedia. • in a group, they know how to create advanced digital narratives, video, hypermedia projects based on contents or products modified by members of the group, complex media messages. • they know how to, working in a group, digitise analog contents; e.g. together with others they complete a digitalisation project.	• they can solve problems related to advanced techniques of modifying content of multimedia and hypermedia. • they know how to conduct training workshops on modifying the media content for users at different levels. • they know how to co-ordinate the efforts of a team or teams creating advanced digital narratives, video, hypermedia projects based on the modified content. • they are able to co-ordinate advanced digitisation activities.

Issue	Minimum level	Optimum level	Master level
Presentation	• they know how to use tools for synchronous presentation of content (on-line presentations in real time). • they know how to use asynchronous tools to present contents (on-line and off-line multimedia presentations). • they know how to use tools to conduct collective on-line communication with sound and video. • they know how to present contents on a blog, also using tools to create contents collectively • they can prepare in a group contents using wiki system, set up and moderate network discussions via mailing list, forum and social networking sites. • they know the basic principles of Internet journalism and after previous preparation they can publish content about life in their community; e.g. they know what "citizen journalism" is and they try to act as citizen journalists. • they know how to create simple digital archives consisting of digitised material.	• they know how to use content management systems, manage lists of authors and published contents, add, edit and delete contents using tools such as blog or office suite. • they know how to share information on their own or group work; e.g. they know how to use social media to create a publication on a specific topic. • they know how Internet editorial team works; they can use basic journalistic skills to publish current information (previously prepared on their own and/or in a group) about the life of their community. • they know how to create complex digital archives of digitised material.	• they can solve problems related to using content management systems. • they know how to animate on-line networks and train others in managing on-line networks. • they know how to organise a web editorial team, co-ordinate its work and use it to activate local community. • they know how to create advanced digital archives; they can deliver training in the creation of digital archives for users at different levels.

V. ETHICS AND VALUES IN COMMUNICATION AND MEDIA

Formal education – children

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
Communication and media as a subject of ethical reflection	• they can, at a basic level distinguish good and evil in media and communications; e.g. they can indicate bad behaviour of a movie character.	• they know that the problem of good and evil, lies and truth also applies to media and communications; e.g. they know that on TV one can hear a lie or that playing certain games can be bad. • they know that there are certain rules for communication and use of media and that they must be followed. • they know how to identify ethical risks associated with the use of media, e.g. they can describe the problem of lies in a television advertisement.	• they understand why moral norms and values also apply to media and communications, e.g. they understand why insulting someone on the Internet is as bad as insulting someone face to face.
Ethical challenges in content of media and communications		• they understand the need to comply with restrictions on access to media contents implemented for their own good, e.g. ban on watching certain programmes on television.	• they know that they have a right of access to information and communication. • they understand why when using materials available on the Internet they have to respect the work of others, e.g. they understand why when they use a picture downloaded from the Internet in a multimedia presentation they have to reference the source.

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
			• they understand that the values promoted in contents of media and communication depend on many factors, e.g. they understand that advertising is not an objective information about the product, because its main function is to encourage the purchase of the product, create specific needs, etc. • they understand the concept of freedom of speech from media and communications perspective. • they understand the need for critical tolerance and openness (also to other cultures) in contact with the media contents.
Ethical challenges in relations through media		• they know that they have a right to anonymity and privacy, e.g. they know that they can oppose to have a photo taken by a stranger or that it is OK to refuse to give their home address to a person met on-line. • they understand that communication through media is still communication between people, e.g. they understand that on the other side of the screen there is another human being who must be respected.	• they know that their privacy and privacy of others is a value, e.g. they know why it is bad to give out somebody's phone number without their consent. • they know how to apply netiquette rules in the Internet communication. • they understand the attitude of critical openness and tolerance in relations through media; e.g. they understand that in on-line discussions they are not always right and sometimes they should accept the argument of the other side.

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
		• they understand that communication through media cannot be a sufficient alternative to interpersonal communication, e.g. they understand disadvantages of being friends with someone only on the Internet.	
The legal standards in media and communications		• they know that the law also applies to media and communications. • they understand the obligation to comply with the law in perspective of media and communications, e.g. can explain why stealing on the Internet has the same status as stealing goods from a store.	

Formal education – young people

Issue	Lower secondary school	Upper secondary school
Communication and media as a subject of ethical reflection	• they can ask questions about the ethical implications of communication and use of media in the perspective of their own behaviour and experiences, e.g. they can reflect upon the consequences and the moral judgement of publishing on their blog methods for radical ways to lose weight. • they understand that ethical challenges in media and communications exist also beyond their own experience and they know how to ask questions about them, e.g. they can describe the moral problem of controlling employee's Internet activity by the employer; ask questions about the nature of the problem: the boundaries of employee's privacy, the requirements of fair and effective work, etc.	• they are able to identify and analyse ethical challenges in media and communications beyond their personal experience and they know where to find help in resolving them, e.g. they are able to critically analyse the ethical issue of on-line cheating based on statements of psychologists, available research, etc. • they are able to engage in reflection on ethical communication and media from different perspectives, such as business, advertising, politics, education, science and taking into account different moral systems. • they understand the issue of language in discussions on the ethics in media and communications; e.g. they understand the problem of defining the concept of computer piracy.
Ethical challenges in content of media and communications	• they know what factors affect the presence and shape of certain values in media and communications, e.g. they know that the political faction that controls the public media can influence the values that predominate in the media messages. • taking into account this knowledge they are able to critically analyse the content of media and communications, e.g. understanding the principles of operation of tabloid and their business model they are able to critically describe the values promoted in a selected title.	• they know how to practically identify challenges concerning journalistic ethics, applying it to other content providers and using perspective of different moral systems, e.g. they are able to confront the principles of journalistic ethics with a violent footage presented by a war correspondent. • they know how to address the problem of freedom of expression and pluralism of media to specific events, e.g. they can analyse functioning of Wikileaks and relate it to freedom of speech and state security policy.

Issue	Lower secondary school	Upper secondary school
	• they understand the right to object to or actively resist certain media and communications content, e.g. they understand why they can protest against displaying advertising banners in the school; they understand that installing Ad Block in their browser is an example of their right to control the content they receive. • they know about the right to access to information and its limits; e.g. they know the value of someone's privacy and they know that it limits the right of access to information; they know the concept of public information and they are aware of the right of access to it. • they understand the problem of communication of contents such as violence, nudity, privacy; they understand that this problem may also relate to historical contents, e.g. they understand that people should think about the form and style of photographs documenting a school visit to the Auschwitz Museum. • they understand the concept of journalistic ethics and they can show how it relates to various content providers. • they are able to present a positive interpretation of hacking as an action that adjusts a system (medium) to desired purposes.	• they know how to relate the problem of the common good to media and communication system using the concepts such as gift culture and openness (related to open educational resources, open science, free licenses, etc.), e.g. they are able to analyse the Wikipedia model in terms of common good, stressing the importance of Creative Commons license used by the authors. • they know how to critically analyse the problem of common good and openness in the perspective of media contents, e.g. they can find and present the arguments for making scientific research results accessible on-line; they are able to analyse the issue of TV license and its contribution to the functioning of public media as a common good.

Issue	Lower secondary school	Upper secondary school
Ethical challenges in relations through media	• they understand the problem of moral judgement of communication behaviour, e.g. they understand that ridiculing someone on the Internet has the same moral value as ridiculing someone in the direct communication. • they understand the concept of hate speech on the Internet and they can apply it to the observed on-line activity and to the idea of freedom of speech. • they understand the value of collaboration between Internet users (in perspective of phenomena such as the Open Source movement, Wikipedia, crowdsourcing, peerproduction, etc.).	• they know the rules of limiting the right to privacy in the media, e.g. they can give examples of values protection of which may require limiting our right to privacy (e.g. public security); they can identify and assess the negative impact of limiting the right to privacy (e.g. the control over Internet users in China, the problem of ACTA). • they are able to approach critically the codified rules of netiquette. • they are able to develop their own rules concerning relations in communication through media based on their own experience.

Issue	Lower secondary school	Upper secondary school
The legal standards in media and communications	• they know that the legal system does not always respond quickly enough to new developments in media, e.g. they know what “stalking” is and they know that it has been recognised as an offense only recently. • they understand that not all rules of communication and functioning of the media must be regulated by law, e.g. they can explain the principles and importance of culture of discussion on forums and show which of these rules do not result directly from the law, but are still in force.	• they understand the problem of the connection between civil law and morality, especially with regard to copyright, ownership and right to privacy in media and they understand the problem of the language in discussing these issues, e.g. they understand the complexity of the moral judgement of computer piracy, they can consider whether the illegal use of computer software for educational purposes is ethical or not. • they understand that the standards of functioning of the media can be various in different legal and normative systems. • they are able to address this issue in an attempt to ethically assess a given media situation, e.g. they understand that the operation of the portal Redwatch in the American legal culture is allowed as an expression of freedom of speech, whereas in Poland it is treated as a crime. They understand issues that arise from diversity of legal and normative systems in an attempt of ethical assessment of this phenomenon.

Lifelong learning

Issue	Minimum level	Optimum level	Master level
Communication and media as a subject of ethical reflection	• they can ask questions about the ethical implications of communication and use of media in the perspective of their own behaviour and experiences, e.g. they consider: was it wrong to download this file?	• they can analyse ethical problems in the perspective of media and communications beyond their personal experience (at a general, abstract level) and they know where to find help in their critical analysis and resolution, e.g. they consider: under what conditions will illegal files download not be unethical? • they understand the problem of language in discussions about media ethics.	• they know how to initiate a process of ethical analysis of media and communication among students or workshop participants, e.g. they ask: have you ever felt that some material should not be presented in the news because it has been inappropriate or unfair to someone? • they know how to develop subjective ethical rules of communication and use of media and follow them every day.
Ethical challenges in content of media and communications	• they know about the right of access to information and constraints associated with this. • they are able to point out the fundamental values in a selected media message. • they understand that values present in the contents of media and communication depend on many factors.	• they know what factors affect the presence and shape of certain values in media and communications. • they know how to analyse critically the content of media and communications using this knowledge. • they understand the right to object or resist to media contents and communication.	• they can relate the problem of freedom of expression and pluralism of media to specific situations observed in the media environment. • they know how to apply the problem of the common good to media and communication system using the concepts such as gift culture and openness (related to open educational resources, open science, free licenses, etc.).

Issue	Minimum level	Optimum level	Master level
	• they know that when using the materials available on the Internet they should respect the work of others. • they understand the concept of journalistic ethics.	• they understand the problem of communication of contents such as violence, nudity, privacy (also in relation to the contents of the historical nature). • they understand the value of equal access to information. • they know how to practically identify challenges of journalistic ethics and they are able to relate them to other content providers.	• they are able to present a positive interpretation of hacking as an action that adjusts a system (medium) to desired purposes.
Ethical challenges in relations through media	• they know that they have a right to anonymity and privacy. • they understand that communication through media is still communication between people. • they know that their privacy and privacy of others is a value. • they know how to apply the rules of netiquette in their Internet communication. • they understand the need for critical tolerance and openness (also to other cultures) in contact with the media contents.	• they understand the problem of moral judgement of communication in media. • they understand the concept of hate speech on the Internet and they can apply it to the observed on-line activity and to the idea of freedom of speech. • they understand the value of collaboration between Internet users (in the perspective of phenomena such as the open source movement, Wikipedia, crowdsourcing, peerproduction, etc.).	• they are able to approach critically the codified rules of netiquette. • they are able to develop their own rules concerning relations in communication through media based on their own experience.

Issue	Minimum level	Optimum level	Master level
The legal standards in media and communications	• they understand the obligation to comply with the law in the perspective of media and communications.	• they know that the legal system does not always respond quickly enough to new developments in the media. • they understand that not all rules of communication and functioning of the media must be regulated by law. • they understand that the standards of functioning of the media can be different in different legal and normative systems.	• they understand the problem of the connection between civil law and morality, especially with regard to copyright, ownership and right to privacy in media. • they consider issues that arise from diversity of legal and normative systems in an attempt of ethical assessment of a given situation, e.g. they reflect: while it is not prohibited to promote Nazism in the U.S. (due to the principle of freedom of speech), does it mean that this action should be allowed also in Poland?

VI. SAFETY IN COMMUNICATIONS AND MEDIA

Formal education – children

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
Protection of privacy and image	• they are able to object if they do not want to take part in a communication situation; e.g. they do not want to be recorded or photographed, do not want to talk on the phone.	• they know that some information should not be given to strangers; if in doubt, they ask their parents or guardians. • they know the difference between preservation and publication of works. • they know how to object to the publication of their own work by another child or an adult or in cases related to the use of their image, e.g. screening the film in which they appear.	• they can indicate differences between private and public communication.
Anonymity		• they understand the concept of “anonymity”.	• they know that the Internet allows anonymous use. • they can give an example of a situation in which anonymity is advisable.

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
Security of communication, work and transactions	• they know how to communicate that a given content scares them, but they do not necessarily know how to tackle this, e.g. deliberately switch the channel.	• they understand what "a secret" is, and are able to use this knowledge also in the communication situation. • they know how to select the content they receive, e.g. by switching off the TV, changing the movie, turning the page.	• they know that some information and communication should be "a secret"; e.g. e-mail password. • they know that there are ways to ensure protection of that "secret" and know how to ask about them. • they know that shopping can be done in a high street store or in an on-line shop or via an auction page, they can give examples of such services. • they know what spam is and are able to recognise its more obvious examples.
Supervision over the network			• they know what "censorship" means. • they know what "tapping" means, also in the context of technology and the Internet, e.g. know that when they write a message to a particular person on the Internet, it may also be read by somebody else.
Addictions and hygiene of using the media			• they can recognise situations in which the limits of hygiene in use of the media are exceeded, e.g. when mother plays too much computer games, a friend talks too much on the phone. • they know that the relations established through media have an impact on direct relations and activities carried out with the use of media can have very real consequences; e.g. on-line payments.

Formal education – young people

Issue	Lower secondary school	Upper secondary school	Higher education
Protection of privacy and image	• they are able to decide whether a given communication situation should be private or public.	• they know how to correctly identify whether tools (e.g. chats on social networking sites) offer actual private communication or just a delusion of it. • they know how to use the tools that increase privacy, such as browser add-ons, privacy settings. • they know what the purpose of terms and conditions on pages that they use is.	• they have a good command of the methods and tools for privacy protection. • they read and understand terms and conditions of the web pages they use, and are able to make conscious decisions regarding accepting or rejecting them.
Anonymity	• they know that there are special tools designed to increase anonymity on-line and know how to ask about them. • they know that anonymity on the network can be illusory, and that it is often possible to determine the original provider of the information, even if they used a nick name. • they know that if identifying data (e.g. home address) is revealed during the communication process, the fact that communication is being conducted using anonymous tools do not suffice to maintain anonymity.	• they know which tools to use to increase anonymity, such as TOR, anonymous proxy, Linux TAILS distribution.	• they make conscious decisions regarding anonymity in different communicative situations, e.g. in some cases they intentionally deactivate geolocation services available in their browser.

Issue	Lower secondary school	Upper secondary school	Higher education
Security of communication, work and transactions	• they know that personal data can be treated as a commodity. • they know how to use the basic tools ensuring secure communications, e.g. use “https” on Internet banking pages or social networking sites. • they know that it is necessary to log out from services after work with them is finished. • they know that there are different payment methods on the Internet with different levels of security. • they know the basic rules of safety when shopping on-line.	• they confidently identify spam and phishing attempts, e.g. notice that the address of the bank Internet site isn’t correct. • they pay attention to the certificates, e.g. do not automatically accept every certificate declared as incorrect by the browser. • they know that there are additional tools increasing security of communication and are able to find information about them, e.g. end-toend encryption, PGP/GPG, OTR.	• the skilfully use the tools that increase security of communication. • they know the end-to-end encryption tools such as PGP/GPG, OTR and are able to use them.

Issue	Lower secondary school	Upper secondary school	Higher education
Supervision over the network	• they know that the Internet can be monitored. • they know that this surveillance can have many forms, including censorship and tapping. • they know that the surveillance may not be noticeable to the supervised, e.g. they realise that the effect of such supervision may be the change of search results, which is difficult to identify.	• they know that there can be different reasons for introducing supervision and are able to list them; e.g. protection of children using the Internet, creating additional income by the corporation from the sale of private user data. • they know that the surveillance might be legal or illegal, carried out by state bodies (e.g. police), private individuals or corporations. • they know that there are methods to avoid supervision and are able to give examples; e.g. deliberate placement of false information or the use of encryption not only with sensitive data, but also with the unimportant content in order to hinder identification when important/sensitive communication takes place.	• they know how to use the tools to circumvent/hinder supervision. • they consciously select tools for specific purposes, taking into account the possibility of third party oversight of communication and specifics of the content.

Issue	Lower secondary school	Upper secondary school	Higher education
Addictions and hygiene of using the media	• they know that some behaviour patterns can lead to addiction. • they know how to identify unsafe practices and avoid them. • they know what stalking is.	• they know how to consciously shape their habits related to the use of technology. • they can notice the signs of addiction in their own and others' behaviour. • they are able to predict the consequences of on-line actions which can cause dangerous situations, e.g. they do not speak publicly about going away for a long time on a social network site where their home address is published. • they are able to recognise stalking and know how to defend themselves if such situation occurs. • they know how to manage their image on-line, they consciously decide to what extent on-line image reflects their true identity, e.g. they do not publish data which disclose their identity.	• they know how to react to negative patterns of behaviour, e.g. by seeking professional help. • they recognise the link between their actions in the media and other aspects of life, they know how to manage these links.

Lifelong learning

Issue	Minimum level	Optimum level	Master level
Protection of privacy and image	• they know that privacy is a value and that we have a right to it. • they know that protection of image requires protection of privacy. • they know that private data can be treated as a commodity. • they know that some messages should only be transferred privately, others may be publicly accessible. • they understand that taking part in communication makes them potentially responsible for the image of others; e.g. their employer if they use a corporate e-mail address.	• they know how to use basic tools to protect privacy, such as browser add-ons, disabling cookies. • they can pinpoint which messages may only be transferred privately, and which may be available to the public. • they know that even anonymous data collected in sufficient quantity may allow for the invasion of privacy. • they know that their decisions regarding privacy may differ from the decisions of others and they respect that. • they know how to adjust their image to the situation and role.	• they consciously create their image on-line in different contexts. • they skilfully use techniques and tools for privacy protection. • they make informed decisions about whether or not they share their data and data of their friends, taking into account their privacy preferences.
Anonymity	• they know that the Internet allows anonymous use. • they know that anonymous use does not exclude the possibility of determining the author. • they know that there are methods to track people's activity on the Internet without their knowledge, such as cookies.	• they know that there are tools to increase anonymity (such as browsers add-ons, TOR systems, I2P, proxy). • they know how to find and customise the browser settings to increase anonymity.	• they skilfully use tools and techniques ensuring the anonymity when using the Internet. • when necessary they maintain anonymity using a combination of tools, such as private mode, TOR, blocking cookies.

Issue	Minimum level	Optimum level	Master level
Security of communication, work and transactions	• they know how to use basic tools to ensure safe data transmission (https). • they know that it is necessary to log out from services after work with them is finished. • they pay attention to warnings about expired/invalid certificates, if in doubt they ask and do not accept automatically. • they appreciate the importance of treating certain information as secret, they realise that sharing passwords (even if sometimes convenient) is unacceptable. • they are able to apply “IT hygiene”, e.g. pay attention to the messages on the screen and do not accept things they do not understand; they are aware of the threats such as viruses; they can use the so-called “private mode” of browsers.	• they know how to independently decide on the security of communications in a given situation, e.g. decide whether or not to accept an expired/invalid certificate. • they are aware of the risks associated with centralised networks and services, they are able to give examples of centralised networks (e.g. Facebook, Google), and the risks involved (e.g. loss of control over communications, tapping).	• they skilfully use end-to-end encryption systems (PGP/GPG, OTR). • they keep track of the most important reports on security breaches and are able to implement solutions to the problems and suggested best practices. • they make informed decisions about the tools they use, taking into account also non-technical reasons, e.g. the fact that all the communication channels they use can be easily controlled by one organisation. • they understand the advantages of decentralisation and take them into account in the process of selecting tools. • they are able to perform simple, informal security audit, pointing out deficiencies in a given situation and e.g. advise encryption.

Issue	Minimum level	Optimum level	Master level
Supervision over the network	• they know that Internet communication can be monitored without user's knowledge. • they know that the surveillance might be legal or illegal. • they know that there are methods to avoid supervision and are able to give examples of such methods. • they know that the surveillance can lead to censorship.	• they can make use of basic tools of avoiding potential surveillance of the Internet. • they know that the supervision of communication on the Internet happens on many levels. • they can tell which communication channels are more susceptible to supervision than others. • they are able to give examples of situations in which surveillance is justified, and where it is not.	• they are able to avoid the supervision of the network, using a variety of techniques for this purpose. • they are able to competently determine which channels of communication are most likely to be supervised and for what purposes.
Addictions and hygiene of using the media	• they know that some behaviour patterns can lead to addiction. • they know that the relations established through media have an impact on direct relations, and activities carried out with the use of media can have very real consequences; e.g. on-line payments. • they are able to predict the consequences of actions performed on the Internet which can cause dangerous situations not only on-line, but also in the world beyond it. • they know what stalking is and are able to recognise it.	• they know how to identify dangerous patterns of behaviour and avoid situations that lead to them. • they know how to consciously shape their habits related to the use of technology. • they can notice the signs of addiction in their own and others' behaviour. • they know basic tools and methods of defense against the risks related to communication through media.	• they know how to react to negative patterns of behaviour, e.g. by seeking professional help. • they can identify attempts of attacks in the media environment (e.g. targeted phishing) and defend themselves.

VII. LAW IN COMMUNICATIONS AND MEDIA

Formal education – children

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
Types, sources, and the practice of law in the context of media	• they know what a given word means.	• they know common rules of communication and they are able to apply them in typical situations, e.g. they know when to say “good morning”, “good evening”, “thank you”, “I’m sorry”. • they know that the law also applies to communication with others and its breach can be punished.	• they understand the concept of freedom of speech, privacy rights, protection of reputation. • they are able to point out examples of their rights and obligations in the sphere of communication, such as the right to secrecy of correspondence. • they understand the concept of contract. • they know that the use of communication services involves entering into a contract.
Media and human, civil and children’s rights	• they know that the media connect people. • they know that people should not offend others, both in direct contact and via media. • they know how to inform a parent or a guardian if something unpleasant happens to them while using the media.	• they know that they have a right to anonymity; e.g. when signing a drawing they can use a nick name and they don’t have to disclose their real name. • they know how to object to a violation of communication rules. • they know that everyone has a right of access to knowledge.	• they know their communication rights as a child, a student and also their civil rights (the right to participate in culture, freedom of speech, etc.) and they know why they are important, e.g. they know they have a right to read books, a right to communicate with others. • they are able to notice violations of rights, freedoms, equality and privacy in the media. • they understand that the law is to protect the users of the media.

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
The exclusive rights and intellectual monopolies	• they know that every work has its author. • they know that one should not present work created by others works as their own.	• they know that they are both authors and users of information, e.g. when they draw or watch cartoons. • they know that the author decides about publishing the work, e.g. they can decide when the drawings are finished and when they can show them to classmates. • they know what plagiarism is. • they know what a quote is. • they know how to indicate the quotation in their own and others' speeches.	• they know that there are various exclusive rights: copyright, patents, trademarks. • they know what is personal and public fair use, e.g. we have a right to copy information. • they know how to quote and indicate authorship properly. • they can give examples of derivative works, such as translations.
Telecommunication law		• they are able to report a technical problem to an adult and ask for support.	• they can describe the differences between types of telecommunication services. • they are able to give examples of paid services. • they know that service operators have certain responsibilities and can give examples of these. • they know they are not able to enter into contracts on their own. e.g. they can't create an account on the websites. • they know how to ask an adult for help in creating an account.

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
Media law and public media	• they know that newspapers, radio stations and portals have their editorial teams. • they know that there are books, newspapers, radio programmes and applications designed especially for children.	• they know that in the media editors are responsible for the contents. • they are able to recognise signs that say if a programme is appropriate for children.	• they know that newspapers and portals are private, and radio and television can be private or public. • they know about the right of authorisation and rectification. • they know that advertising and sponsored materials must be properly marked. • they are able to recognise advertising.
The rights of disabled	• they know that everyone has a right to use the media, regardless of the degree of ability. • they know that people with disabilities experience difficulties in using the media.	• they know that a disabled person has an equal right of expression in the media. • they are able to give examples of barriers in access to education, information and culture. • they can give examples of special provisions for the disabled, e.g. they know that you can enlarge the letters so that everyone can read them, you can add subtitles to the movies.	• they are able to recognise the typical barriers to accessibility in the media coverage. • they are able to recognise a violation of rights in the media contents. • they know how to discover and describe the immediate barriers to accessibility, e.g. the lack of film subtitles.
Data protection	• they know that they should not speak and write about themselves or family if it is not necessary, e.g. they should not talk to strangers about the place of living or parents' cars.	• they understand the concept of privacy, data protection and their right to such protection.	• they know that electronic communication involves collecting and storing information about users. • they are able to recognise situations of data extortion. • they can refuse giving out personal information. • they know how to create an account using a nick name.

Formal education – young people

Issue	Lower secondary school	Upper secondary school	Higher education
Types, sources, and the practice of law in the context of media	• they know that they can defend themselves in court in case of violation of their communication rights. • they know that there are legal regulations concerning communication through media (telecommunications law, copyright law, press law, data protection, etc.). • they know that netiquette is a set of customary rules of on-line communication.	• they can consciously enter into a contract for communication services, they are able to point out the resulting rights and responsibilities. • they are able to execute their rights. • they know how to ask for help from regulatory authorities and advocates of various groups, e.g. in case of breach of the right to privacy or copyright infringement. • they know how to apply rules from treaties, constitution and bills to their own surroundings and actions.	• they know how to interpret legal norms and apply them in the constantly changing technological environment.
Media and human, civil and children's rights	• they know exactly which children's, human and civil rights concern the media; e.g. secrecy of correspondence. • they know that the freedom of communication needs to be protected. • they can describe the examples of violation of communication freedoms and rights, and react to them.	• they know about the role of the media regulatory authorities, advocates and national and European courts. • they know how to ask for support from the civil service, ombudsman or spokesmen to protect their rights and help others. • they understand the need to defend actively the rights and freedoms of communication.	• they know how to use the media to defend publicly their rights and rights of others.

Issue	Lower secondary school	Upper secondary school	Higher education
The exclusive rights and intellectual monopolies	• they can distinguish between different types of exclusive rights and they are able to indicate what kind of law applies to a specific situation. • they understand that the exclusive rights limit freedom of users. • they know what a license is. • they understand and can apply author's personal rights: indicating authorship and protecting integrity of the work. • they know that exclusive rights are limited in time. • they know what free licenses are and what their purpose is. • they know what the public domain is. • they understand where the limits of citations and the fair use are.	• they understand the reasons for introducing copyright. • they know that the creative monopoly is a compromise between users' rights and the rights of the author. • they can describe how different exclusive rights are formed and how long their protection lasts; e.g. they know that the work is protected once it is established, but a patent and trade mark need to be registered. • they know what the aims of copyright collecting societies are. • they can describe the areas protected by copyright and patent monopolies, e.g. they know that copyright law does not apply to official documents and patent protection does not concern scientific discoveries, mathematics and computer programmes. • they can describe the conflict between the protection of exclusive rights and the freedom of access to content. • they know how to use free license and understand its aims. • they know what copyleft is.	• they know how to determine the legal status of a work or technical solution. • they understand the conflict between the monopoly of distribution and the model of network communication. • they understand the reasons and consequences of choosing licenses for their works. • they understand the essence of the dispute about patents for software, the obligations of intermediaries and the rights and freedoms of an individual participating in culture. • they understand the principles of the patent protection and trademarks. • they know what a database protection is.

Issue	Lower secondary school	Upper secondary school	Higher education
Telecommunication law	• they can describe the role and tasks of a network service provider. • they are able to give examples of the mutual obligations arising from contracts with service providers; e.g. length of contract, ways of terminating the contract, standards of service.	• they know what a common service is. • they know how to defend their rights if an operator cuts them off from a service or data; e.g. they know how to submit a complaint, seek support from public officers. • they know how to check and assess the quality of service. • they know that certain services are regulated, they are able to name the competent offices.	• they are able to request delivery of common services. • they understand the duties of an agent/ operator resulting from a notification about a breach of terms and conditions or law.
Media law and public media	• they know that radio and television are controlled by a special office. • they can describe the role of public media, their mission and a method of financing, such as TV and radio license, advertising, subsidies. • they can describe business models of private media, such as advertising, subscription or access on demand. • they are able to recognise product placement.	• they know what the programme license and the bandwidth allocation are. • they are able to recognise hidden advertising and marketing message. • they are able to use the right to rectification. • they are able to distinguish between information, commentary and entertainment.	• they know how to prepare a press release and who can or is obliged to publish it. • they are able to recognise violation of duties of a publisher or broadcaster. • they know how to check registration data of a medium.

Issue	Lower secondary school	Upper secondary school	Higher education
The rights of disabled	• they know what the Convention on the Rights of Persons with Disabilities is. • they can notice and describe indirect accessibility barriers, such as too small fonts, incorrect contrast, chaotic information layout. • they know how to react to violation of rights of the disabled.	• they are aware of the statutory facilities for disabled people, which must be applied by publishers and broadcasters, e.g. audio description, sign language, subtitles. • they know about accessibility standards and obligation to use them, e.g. they are familiar with the Web Content Accessibility Guidelines (WCAG). • they know that the information presented in an accessible way can reach more customers, and not following accessibility standards excludes some citizens, such as the elderly.	• they know how to check compliance with the accessibility standards; e.g. they use the tools for accessibility self-check. • they know how to respond appropriately to violations of accessibility.

Issue	Lower secondary school	Upper secondary school	Higher education
Data protection	• they are able to give examples of collecting and storing information about users, such as billing, geolocation data, emails, messages, posts on forums and social media. • they are able to practically protect the privacy of their own and others. • they know that data administrators are obliged to inform about the data they store; e.g. they know that they can obtain information on any personal data stored by the owner of the website. • they know about the law on personal data protection. • they can describe the responsibilities of service providers regarding protection of personal data.	• they know what a privacy policy is. • they know the contents of the law on personal data protection. • they understand the concept of personal data processing and data administrator. • they know what sensitive information is. • they can describe the problems associated with data protection, such as database leaks, combining data from different sources, sensitive data. • they know the name of the data protection office and can describe its tasks.	• they understand the privacy policies of companies whose services they use. • they know how to apply the principles of data protection in their own publications and services. • they know how to ask the data protection office for intervention or interpretation of rules. • they know how to check their own data collected by different service providers or institutions. • they know how to register a database and check whether a database is registered.

Lifelong learning

Issue	Minimum level	Optimum level	Master level
Types, sources, and the practice of law in the context of media	• they know what customary communication norms are. • they know that the law also applies to communication with others and its violation is punishable. • they know that communication rights can be defended in a court. • they understand the concept of freedom of speech, right to privacy (secrecy of correspondence), protection of reputation. • they are able to point out examples of their rights and obligations in the sphere of communication. • they understand the concept of contract. • they know that the use of communication services is associated with entering into a contract. • they know that netiquette is a set of customary rules of on-line communication.	• they know that there are legal regulations concerning communication through media (telecommunications law, copyright law, press law, data protection, etc.). • they know how to apply rules from treaties, constitution and bills to their own surroundings and actions.	• they are able to execute their rights. • they know how to ask for help from regulatory authorities and advocates of various groups, e.g. in case of breach of their right to privacy or copyright infringement. • they know how to interpret legal rules and apply them in the constantly changing technological environment.

Issue	Minimum level	Optimum level	Master level
Media and human, civil and children's rights	• they know that they have a right to anonymity, but not to impunity. • they know how to behave with dignity in communication situations. • they understand that everyone has a right to education and access to knowledge. • they know their communication rights resulting from human and civil rights.	• they are able to notice a violation of rights, freedoms, equality and privacy in the media and know how to respond to them. • they understand the role of the right to education and to participate in culture. • they know which specific human and civil rights are related to media.	• they know about the role of the media regulatory authorities, advocates and national and European courts. • they know how to ask for support from the civil service, ombudsman or spokesmen to protect their rights and help others. • they understand the need to defend actively communication rights and freedoms. • they know how to use the media to defend publicly their rights and rights of others.

Issue	Minimum level	Optimum level	Master level
The exclusive rights and intellectual monopolies	• they know that the author decides about publishing the work. • they know what plagiarism is. • they know that there are various exclusive rights: copyright, patents, trademarks. • they know how to quote and indicate authorship properly.	• they know what a license is. • they understand and can apply author's personal rights: indicating authorship and protecting integrity of the work. • they know that exclusive rights are limited in time. • they know what free licenses are and what their purpose is. • they know what the public domain is. • they can give examples of derivative works, such as translations. • they understand what the limits of citation and the fair use are. • they can distinguish between different types of exclusive rights and they are able to indicate what kind of law applies to a specific situation. • they understand that the exclusive rights limit the freedom of users. • they can describe how different exclusive rights are formed and how long their protection lasts.	• they understand the reasons for introducing copyright. • they know that the creative monopoly is a compromise between users' rights and the rights of the author. • they know what the aims of copyright collecting societies are. • they can describe the conflict between protection of exclusive rights and freedom of access to content. • they know how to use free licenses and understand their aims. • they know what copyleft is. • they know how to determine the legal status of a work or technical solution. • they understand the conflict between the monopoly of distribution and the model of network communication. • they understand the reasons and consequences of choosing a license. • they understand the essence of the dispute over patents for software, the obligations of intermediaries and the rights and freedoms of an individual participating in culture. • they understand the principles of the patent protection and trademarks. • they know what a database protection is.

Issue	Minimum level	Optimum level	Master level
Telecommunication law	• they can describe the role and tasks of a network service provider. • they are able to give examples of the mutual obligations arising from contracts with service providers. • they know what a common service is.	• they know how to defend their rights if an operator cuts them off from a service or data; e.g. they know how to submit a complaint, seek support from public officers. • they know how to check and assess the quality of service. • they know that the services are regulated, they are able to name the competent offices.	• they are able to request delivery of common services. • they understand the duties of an agent/operator resulting from notification about the breach of terms and conditions or law.
Media law and public media	• they know that in the media editors are responsible for the contents. • they are able to recognise signs that say if a programme is appropriate for children and young people. • they know that newspapers and portals are private, and radio and television can be private or public.	• they know about the right to authorization and rectification. • they know that advertising and sponsored materials must be properly marked. • they are able to recognise advertising and product placement. • they know that radio and television are controlled by a special office. • they can describe the role of public media, their mission and methods of financing. • they can describe business models of private media.	• they know what the software license and the bandwidth allocation are. • they are able to use the right to rectification. • they know how to prepare a press release and who can or is obliged to publish it. • they are able to recognise violation of duties of a publisher or broadcaster. • they know how to check registration data of a medium.

Issue	Minimum level	Optimum level	Master level
The rights of disabled	• they know that a disabled person has an equal right of expression in the media. • they are able to give examples of barriers in access to education, information and culture.	• they know about accessibility standards. • they know what the Convention on the Rights of Persons with Disabilities is. • they notice and describe indirect and direct accessibility barriers. • they pay attention and know how to react to a violation of rights in the media content.	• they are aware of the statutory facilities for disabled people, which must be applied by publishers and broadcasters. • they know how to check compliance with the accessibility standards. • they know how to respond appropriately to violations of accessibility.
Data protection	• they understand the concept of privacy, data protection and their right to such protection. • they know that electronic communication involves collecting and storing information about users. • they are able to recognise situations of data extortion. • they know how to refuse giving out personal information.	• they know what a privacy policy is. • they know what sensitive information is. • they know which office deals with data protection. • they know what permission to process data involves. • they know that data administrators are obliged to inform about the data they store. • they know about the law on personal data protection. • they can describe the responsibilities of service providers regarding protection of personal data. • they can describe the problems associated with data protection. • they are able to practically protect the privacy of their own and others.	• they know what data is collected by a service provider and for how long it is stored. • they know the contents of the law on personal data protection. • they understand the privacy policies of companies which services they use. • they know how to apply the principles of data protection in their own publications and services. • they know how to ask the data protection office for intervention or interpretation of rules. • they know how to check their own data collected by different providers or institutions. • they know how to register a database and check whether a database is registered.

VIII. ECONOMIC ASPECTS OF MEDIA FUNCTIONING

Formal education – children

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
Media market	• they know that there are different types of media and are able to show examples; e.g. magazine for children to read, TV shows to watch, audiobook to listen to, on-line game to play, etc. • they know that the media have customers/ users.	• they know that the media together with the users create media market. • they are able to name traditional types of media: newspapers, radio and television. • they know and understand that the Internet is a medium of a different type.	• they know that there are different typologies of media; e.g. traditional media and new media, mass media and social media; printed press and electronic media, public media and private media. • they are able to point out some fundamental differences between these types of media. • they know that there are companies that operate in the field of media, like other companies they have employees and managers. • they understand the relationships between media and their users (exchange, participation and co-creation).
Information as an economic good	• they intuitively know what information is; e.g. they know on which channel they will find a favourite cartoon or that it is broadcasted at a specific time of the day. • they are able to share information with others.	• they know that the information may be conveyed directly or indirectly, through the media (press or electronic media). • they know that in the media language information is called “news”. • they understand the concept of advertising; they know that messages can be persuasive or informational.	• they understand that information has a context that determines whether we are dealing with a persuasive or purely informational message. • they are able to distinguish advertising from information. • they know that advertising also contains information element, but it is dominated by the persuasive goal.

Issue	Pre-school	Primary school, grade 1–3	Primary school, grade 4–6
Financing of the media	• they know that media messages contain advertising; e.g. they can identify advertising in their favourite magazine or between cartoons on television. • they know that we pay for the access to media; e.g. we buy newspapers at a kiosk. • they know that the goods can be purchased in a store, but also on the Internet.	• they know that there are some games, in which the basic service is free, but you have to pay for additional functionalities. • they know that as minors they cannot make transactions on the Internet. • they are able to identify different ways of purchasing goods; e.g. a shop in the mall, online store, auction.	• they know that there are some file hosting services or games, in which the basic service is free, but you have to pay for additional features, they understand that law does not allow them to make such payments. • they know that sometimes the information about additional payment for the use of a service is hidden and needs to be decoded; e.g. the cost of SMS voting on TV or special telephone numbers, where the price is encoded in the first digits of the number. • they know about the existence of hidden payments on the Internet. • they know that we pay for access, not the content of the media messages, hence the need for funding the media from other sources, e.g. on public television channel adverts do not interrupt a programme but we need to pay for a TV license. • they know that advertising is one way of financing the media. • they understand why they cannot make transactions on the Internet on their own.
Media policy			• they know that media policy consists of activities related to the functioning of the media (regulation, supervision and control) and are able to identify elements of this policy, e.g. they are able to point out examples of media market regulation.

Formal education – young people

Issue	Lower secondary school	Upper secondary school	Higher education
Media market	• they know that the media market is created not only by the media and their users, but also public institutions established to supervise and control the media market. • they know that media companies have: their owner, managing board, specific legal and organisational form, and also their editorial line.	• they are able to distinguish between the public media and the private media, and they know what the basic consequences of this division are, such as the obligation to obtain a broadcasting license, the differences in funding. • they know about two phenomena of the media market: competition and concentration. • they are able to tell the difference in regulation of the traditional media and the new media. • they understand that regulators create entry barriers, e.g. license or registration.	• they know what the media pluralism is and understand why competition in the media market should be protected. • they know about the existence of informal economy of the media, which is largely or entirely beyond the reach of state policy, its regulation and taxation. • they are able to give examples of informal economy of the media, such as file-sharing network. • they know what consolidation and concentration of media ownership are; they understand their roots and they can describe their effects (though not necessarily know their names, such as economy of scale, scope, and synergy). • they know how to distinguish: the vertical concentration (newspaper publisher buys/creates a radio station) and the horizontal concentration (radio buys another radio). • they understand the functioning of the media value chain, and know that no component is dominated by others.

Issue	Lower secondary school	Upper secondary school	Higher education
Information as an economic good	• they know that information is a good. • they know that not everyone has an access to it. • they are familiar with the concept of information asymmetry. • they know that in the digital world information becomes even more important and its economics is changing (information asymmetry is decreasing). • they know that creation of information, as well as its transmission, involves a cost, these costs are not always recognised by the direct recipients (readers, listeners, viewers), because they are covered by the producers. • they know that the cost of producing a given good is not equal to its value or price. • they know about the gift economy and are able to recognise its elements in the media environment. • they know that one of the principles of on-line business is attention economy and they can explain this mechanism; e.g. by using the example of the search history in a browser. • they know that there are intellectual property rights (including copyright law), and know that these rules have an impact on the economic value and availability of the good. • they understand that the price is a result of an agreement – the seller offers a price and the buyer accepts or rejects it.	• they know that between traditional media and customers there is a relation of economic exchange (attention economy for the on-line media), but the recipient does not pay directly for the information, which results from the way of funding the media. • they know that the current regulations on intellectual property may affect the perception of information and the price of the good, e.g. they know that the idea has no owner, but written on paper by the author is automatically subject to legal protection. • they understand the economic and legal consequences of the existing rules on intellectual property; e.g. restrictions regarding the use of private copies of the film on DVD. • they know what public information is.	• they can analyse the impact of legislation on information and media policy.

Issue	Lower secondary school	Upper secondary school	Higher education
Financing of the media	• they know that the media are divided into private and public because of the way they are funded. • they know what radio/TV license is and why it has been introduced. • they know that some blogs are sponsored by companies and they can distinguish between an incentive to purchase a good from information about it.	• they know that the services which sell content are an exception rather than a principle of funding the media; e.g. they know that on the Internet one can buy privileged access and time, such as stock markets subscription. • they know the basic rules of e-commerce and on-line payments; e.g. they know how to use on-line auctions. • they are able to skilfully use the following terms, understand their meaning related to the media and how they are connected: advertising revenue, subsidy, subscriptions. • they understand the connection between decreasing information asymmetry in the digital environment and a price on certain products purchased on-line; e.g. they understand the impact of search engines, price comparison sites and e-commerce platforms on a reduction of profit margins of products purchased on-line.	

Issue	Lower secondary school	Upper secondary school	Higher education
Media policy	• they are able to give examples and describe elements of media policy. • they know how to explain the differences between public and private media with regards to control and regulation (ownership structure).	• they know how to explain the concept of media policy and describe its selected goals and tools; e.g. media and telecommunication law, regulation and the institutional environment.	• they know about the international dimension of media policy, they know the role of international organisations: EU, ITU, WTO, OECD. • they can identify the source of political and economic pressures exerted on the media due to their funding model. • they understand the impact of media policy on economic phenomena occurring in the media market; e.g. creating entry barriers, concentration, financing of the media.

Lifelong learning

Issue	Minimum level	Optimum level	Master level
Media market	• they know that there are different types of media (radio, TV, Internet, press). • they know what a radio and TV license is. • they can distinguish private and public media. • they know that the media market is regulated.	• they know that a private radio station or TV channel must apply for a license to broadcast and public stations do not have this obligation. • they know that the market is characterized by competition and concentration and are able to present examples. • they know that the media market consists of the media, their users and the regulatory institutions. • they are able to point out the media regulatory and self-regulatory bodies.	• they understand the consequences of media consolidation and concentration. • they understand the differences between horizontal and vertical concentration. • they can identify entry barriers to the media market.
Information as an economic good	• they understand the context of information (they can process information received through the media). • they are able to distinguish information from an advertising message. • they know that information is an economic good and that usually we pay for access rather than for the information itself; e.g. the fee for the use of TV cable network.	• they know what information asymmetry is and they realise that it is decreasing in the digital environment. • they know that the cost of producing a given good is not equal to its price or value; e.g. the cost of producing a mobile phone is different to its market price, which is subject to change related to discounts, sales, etc. • they know what intellectual property (including copyright) is, and understand its legal and economic consequences. • they are able to show examples of gift economy and attention economy.	• they understand how in the digital environment the approach to information as a good has changed. • they understand the mechanisms of attention economy and gift economy. • they understand the economic impact of regulations related to intellectual property. • they know what freedom of information is and what civil rights are related to it.

Issue	Minimum level	Optimum level	Master level
Financing of the media	• they know the basic rules of e-commerce and on-line payments; e.g. they know how to use Internet auctions. • they know that there are some Internet services, where basic service is free, but any additional functionalities are paid extra. • they know that sometimes the information about additional payment for the use of a service is hidden and needs to be decoded; e.g. the cost of SMS voting on TV or special telephone numbers, where the price is encoded in the first digits of the number. • they know that we pay for access, not the content of the media messages, hence the need for funding the media from other sources, such as advertising or a TV license. • they know that the media can be divided into public and private because of the way they are funded.	• they know what a radio/TV license is and why it has been introduced. • they know that some blogs are sponsored by companies and they can distinguish between an incentive to purchase a good from information about it. • they know about the hidden payments on the Internet. • they know how to make safe and efficient online transactions, and understand the rules of e-commerce and on-line payments.	• they can identify the sources of political and economic pressures exerted on the media due to their funding model. • they know that the services which sell content are an exception rather than a principle of funding the media; e.g. they know that on the Internet one can buy privileged access and time.
Media policy	• they know that the media market is subject to supervision and control.	• they know about the existence of informal media systems, which are largely or entirely beyond the scope of state regulation. • they know about the international dimension of media policy and are able to give examples of international organisations influencing it. • they are able to recognise elements of media policy.	• they understand basic functions, objectives and tools of media policy. • they are able to give examples of the impact of media policy on functioning of the media (the way they are financed, emerging of the new media).

Media and Information Literacy for Knowledge Societies

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