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# Information literacy and its importance for the information and knowledge society

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HÁSKÓLI ÍSLANDS

# Information literacy

## Core competency for the 21st century

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*I hear and I forget. I see and I remember. I do and I understand.*  
Confucius (551-479 BC)

The purpose of the study is to clarify the concept information literacy. Further to trace participation of Iceland in international and Nordic cooperation programs on information literacy, the impact of library association on the promotion of the concept, to study information literacy in Iceland, analyse the information policy of the Icelandic authorities with reference to information literacy; its occurrence in Education Acts and national curriculum guidelines as well and to conclude by discussing the emphasis on information literacy in Iceland and the other countries and make some recommendations for creating information literate Iceland. The article is partially based on two former articles by the author and is continuation of them (Þórdís T. Þórarinsdóttir, 2008, 2009).

### The concept *information literacy*

Surprisingly the concept information literacy can hardly be found in general dictionaries and even not in *Encyclopædia Britannica Online* (2010) but in *Wikipedia* (2010) there is an article on information literacy.

#### **The birth of the concept *information literacy* and its relatedness to user education**

It is generally recognized by information literacy scholars, that the concept *information literacy* (IL) was first introduced in the year 1974 by Paul Zurkowsky, president of the United States Industry Association, in a proposal submitted to the National Commission for Libraries and Information Science (NCLIS) with the title *The information service environment: Relationships and priorities*, (Ingibjörg Sverrisdóttir, 2001; Eisenberg, Lowe, & Spitzer, 2004; Horton, 2008; Þórdís T. Þórarinsdóttir, 2008, 2009).

In the proposal Zurkowsky writes about the necessity for citizens to become “information literate” if they are to survive and compete in an emerging Information Society (Zurkowski, 1974.)

Information literacy maintained a low profile in the 1980s, but became during the 1990s focus of rapidly increasing attention (Andretta, 2005).

Throughout the years the concept has undergone constant development and its meaning has broadened. One of its strands goes back to its roots in library education and library skills, which got a new gist with the advent of the information technology.

Now the concept *information literacy* is well known around the world and has been subject of several international conferences. The concept is used for library user education and for what was formerly called information skills. But the meaning of information literacy is broader and it touches most areas of society, includes ethical use of resources and prepares the individual for lifelong learning. Figure one shows some information literacy related terms (Lau, 2006, p. 9):

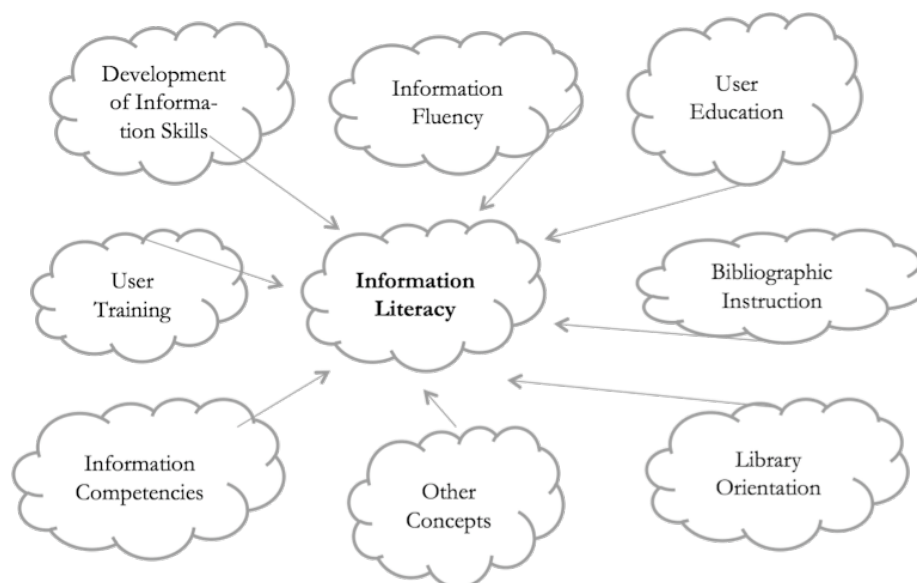


Figure 1. The concept of *Information Literacy*

“Information literacy focuses on information use rather than on bibliographic skills”, that means that “students must develop information competencies to become effective learners” (Lau, 2006, p. 8).

#### Definition of the concept *information literacy*

The basic definition of Information Literacy is as follows according to the *Prague Declaration: Towards an information literate society* from 2003:

Information Literacy encompasses knowledge of one's *information concerns* and *needs*, and the ability to *identify, locate, evaluate, organize* and effectively *create, use* and *communicate information* to address issues or problems at hand; it is a prerequisite for participating in the Information Society, and is part of the basic human right of lifelong learning (my emphasis).

The concept covers also ethical use of resources. Training in information use, that emphasis ethical practice, reduces the occurrence of plagiarism (Catts & Lau, 2008; Loertscher & Wolls, 2002).

According to the *Alexandrian Proclamation on information literacy and lifelong learning* from 2005 the meaning of the concept is more comprehensive and it is declared, “that Information Literacy and lifelong learning are the beacons of the Information Society, illuminating the courses to development, prosperity and freedom”.

Both definitions have in common that it is recognized that information literacy is an essential knowledge for citizens participating in the Information Society; it is the basis for lifelong learning and should therefore be integrated into formal education.

Information literacy includes that the individual knows how to search for information. – He has learned to learn, which makes him eligible in the Information Society.

More exact definition one finds e.g. by Horton (2008) who identifies eleven stages of the information literacy cycle.

Horton's information literacy life cycle shows a process beginning with the realization that information is needed and closes with the disposal of information no longer needed or its preservation if it should be protected, e.g. saved as computer file.

## Information literacy around the world

In many countries information literacy has been purposefully integrated into the national curricula. Task force committees have been set up and special groups have been engaged to pave the way for information literacy in the school system. One can e.g. mention Australia, Finland and the United Kingdom.

### International information literacy cooperation

IFLA (International Federation of Library Associations and Institutions) and UNESCO (United Nations Educational Scientific and Cultural Organization) have promoted information literacy internationally and have for years systematically worked together on advancement in the area of library and information field (Þórdís T. Þórarinsdóttir, 2008, 2009).

In the year 2000 UNESCO launched the project *Information for all Programme* (IFAP) for governments. Through the programme “governments of the world have pledged to harness the new opportunities of the information age to create equitable societies through better access to information” (UNESCO, 2010). Now (August 2010) 59 countries around the world participate in the programme; from the Nordic countries just Denmark and Norway (UNESCO, 2010) and there is no mention of Iceland.

In the year 2002 a section within IFLA was founded on information literacy, *IFLA Information Literacy Section*. The primary purpose of the section is “to foster international cooperation in the development of information literacy education in all types of libraries and information institutions” (IFLA Information Literacy Section, 2010). It’s Standing Committee been very active and published in 2006 *Guidelines on information literacy for lifelong learning* (Lau, 2006). Further the section has in cooperation with UNESCO created the web *InfoLitGlobal* (2010), where resources on information literacy are made available. The main components of the web site are a resources directory, the *International state of the art report* (Lau, 2007) and information material on the international information literacy logo initiated by IFLA and UNESCO in 2008.

### Nordic Cooperation on Information Literacy

The main body for Nordic cooperation on information literacy is NordinfoLIT established 2001 in Helsinki, initiated by NORDINFO, The Nordic Council for Scientific Information (NordinfoLIT, 2010). The main emphasis is on information literacy in higher education by operating an InfoLIT Nordic summer school every year and holding a biannual international conference called *Creating Knowledge* (CK), having information literacy in higher education as its general topic. The events held by NordinfoLIT are arranged in one of the Nordic countries. In September 2003 the CK conference was held in Iceland (Akureyri) and the summer school in 2007 (Reykjohlt). The steering board of NordinfoLIT consists of members from each Nordic country and has an Icelandic representative (NordinfoLIT, 2010).

## Library Associations and Information literacy

Since 1974 information literacy has been an area of increasing interest to librarians and information professionals and there is a huge amount of literature on the topic. The majority of publications have come from the industrialised, English-speaking countries, especially from the United States and Australia (Virkus, 2003) but in the later years more and more of the so-called developing countries have been working towards information literacy policy. The World Summit on the Information Society

(WSIS) held in Geneva (2003) and Tunis (2005) has probably contributed to its promotion. Since the summer 2007 IFLA is moderator of the WSIS sub-theme Libraries and Archives (Haavisto & Mincio, 2007).

In many countries library associations and libraries have played an important role in promoting information literacy. This applies especially, where the associations are financially strong, but in some countries they get considerable subvention from the state, e.g. to participate in international cooperation.

The American Library Association (ALA) has been on the forefront in this respect and established in 1987 a committee on information literacy.

In 1989 a National Forum on Information Literacy (NFIL) was founded in the United States. It is a coalition of national organizations from business, government and education sharing an interest in and a concern for information literacy. The NFIL promotes the concept information literacy as an imperative for the Information Age and contributes to spread it to all professions (Eisenberg et al., 2004).

As a result of consultation and research in the United States the *Information literacy standards for student learning* was published by the American Association of School Librarians and the Association for Educational Communications and Technology (1998) in the book *Information Power. Building Partnership for Learning*.

In other countries library associations have also taken on information literacy, like in the United Kingdom, where CILIP (Chartered Institute of Library and Information Professionals) has a.o. put forward its own definition of the concept (CILIP, 2010).

### Library Associations in Iceland and information literacy

In Iceland library associations have mainly operated on voluntary basis. The *Librarians Association in Iceland* (Bókavardafélag Íslands) was founded in 1960 and in 1973 the *Association of Professional Librarians* (Félag bókasafnsfræðinga). It is noteworthy that in both cases it was an association of librarians not libraries as elsewhere. The consequence is that the libraries are not as strong financial supporters of the associations as in other countries. Thus they are more dependent on individual membership of librarians (Þórdís T. Þórarinsdóttir, 2010). In 1999 the two associations merged into *Upplýsing - the Icelandic Library and Information Science Association* (Upplýsing - Félag bókasafns- og upplýsingafræða). Further the *Association of Public Library Directors* (Samtök forstöðumanna almenningsbókasafna) and the *Association of Professional Librarians in Secondary Schools* (Samstarfshópur bókasafnsfræðinga í framhaldsskólum - SBF) can be mentioned. All the associations have had much impact on the development of the professionalism in libraries and on enhancing library services.

Upplýsing published in 2006 a booklet on information technology and information literacy *Upplýsingatakeni – eitthvað fyrir mig?* [Information technology – something for me?], where Information Literacy is defined (Upplýsing, 2006) and published further in 2007 its first policy statement *Upplýsingar fyrir alla* [Information for all] for 2007-2011. There it is stated “that libraries on all educational levels, from primary school through university, hold a major role in teaching information literacy” (Upplýsing, 2007, p. 17). Last September (2010) *Information Literacy in the 21st Century* was the main theme on Upplýsing’s semi-annual conference (Landsfundur Upplýsingar) held in Stykkishólmur. The contribution of Upplýsing in order to promote information literacy is considerable especially with reference to its limited resources.

## Teaching Information Literacy

Today information technology affects everyone. Most businesses and organizations focus on meaningful uses of information technology and hire employees who are able to apply technology in an effective way. It is undoubtedly the responsibility of the

educational system to develop students who are not only technologically literate but also information literate. The students must learn how to use technology to solve information problems (Eisenberg et al., 2004).

Nowadays familiarity with computers is becoming a prerequisite for most jobs and schools must prepare the students for the future by teaching the use of computers but competence with technology must be set within the context of information literacy. Being able to use computers is not enough. One has to be able to apply computer skills to real situation and real needs and must be able to identify information problems and locate, use, synthesize and evaluate information in relation to the problems at hand.

According to Eisenberg et al., (2004) there are two following main pedagogical approaches or models for teaching technology:

- a) Technology as an object of instruction (skills out of context approach).  
Computer science is considered as part of the curriculum for all students.
- b) Using technology as a tool in preparing assignments (skills in context approach).  
Computer science is considered to be an inherent part of each subject.

Rather than teaching individual skills out of context as is the technology-as-the-object-of-instruction, the technology-as-an-integral-tool model emphasizes the use of technology in context to accomplish goals and solve problems.

The skills in context approach is becoming more widely supported as being consistent with current pedagogy and preparing students for lifelong learning. The focus is on learning with technology rather than learning about technology.

### **The Big6 - Information & Technology Skills for Student Achievement**

Eisenberg and Berkowitz created the Big6™ program in 1990. It is one of the most widely-known and widely-used approach to teach information and technology skills. The Big6 is an information and technology literacy model and curriculum, implemented in many schools, in primary and higher education as well. It is sometimes called the Big6 an information problem-solving strategy, because with the Big6, students are considered to be able to handle any problem, assignment, decision or task (Lau, 2007; Big6™, 2010). The six main stages of the Big6 are: Task definition, Information seeking strategies, Location & access, Use of information, Synthesis and Evaluation. Two sub-stages are part of each main category in the model, where the individual stages are defined more exactly.

The learners go through the different stages the when they seek or apply information to solve a problem or make a decision. It's not necessary to complete the stages in linear order. But it is an approach that clarifies the problem at hand.

## **Information literacy in Iceland**

Until now relatively little has been published about information literacy per se in Iceland and the concept is generally speaking not familiar to the Icelandic people. The first findable mention of the concept (Icelandic: *upplýsingalasi*) in written Icelandic is from 1996 in an article by Kristín Björgvinsdóttir, library director of a secondary school in Reykjavik. The article was found on the website *Tímarit.is* (Tímarit.is, 2010), a digital library of newspapers and periodicals. An earlier mention of the concept in Icelandic cannot be found by searching *Gegnir.is* (2010), the national catalogue of Icelandic libraries nor on the Internet. The concept does not occur in the *Written Language Archive* of the University of Iceland (Ritmálssafn Orðabókar Háskólans, 2010).

The most important resources on information literacy in Icelandic are some articles in the library journal *Bókasafnið*, the first one from 2001 (Ingibjörg Sverrisdóttir, 2001), one book, two web sites and two proceedings (see Þórdís T. Þórarinsdóttir, 2008, 2009).

Besides there are some theses by university students on information literacy and a special interest group operates among librarians in university libraries.

### The information policy of the Government of Iceland

From 1996 the Icelandic Government has put forward a progressive and ambitious information policy. The first one was entitled *The Icelandic Government's vision of the Information Society*. The chief objective, presented as the axis of the vision of the future was:

Iceland shall be in the forefront of the world's nations in the utilisation of information technology in the service of improved human existence and increased prosperity (Ríkisstjórn Íslands, 1996, p. 15).

According to the first information policy statement libraries and library services were rightfully supposed to play an important role in the Information Society (Hulda Björk Þorkelsdóttir, 1998; Þórdís T. Þórarinsdóttir, 1998). They were to develop into comprehensive information centres (see Ríkisstjórn Íslands, 1996, p. 18).

School libraries were supposed to ensure that students learn to use information technology for information searching and work independently with diverse resources. (*Íslenska upplýsingasamfélagið*, 1996), but strong emphasis was placed on information technology and its use.

Since then two new editions of the policy have been published, the last one for 2008-2012. Table one shows an overview of the information policy of the Icelandic Government and the occurrence of the concepts information technology (IT) and information literacy (IL).

Table 1. The information policy of the Icelandic Government – An Overview

No	Date	Author	Title	Period	IT	IL
1	1996	Ríkisstjórn Íslands	<i>Vision of the Information Society</i>	[1996-2003]	74	0
2	2004	Ríkisstjórn Íslands	<i>Resources to Serve Everyone</i>	2004-2007	33	0
3	2008	Ríkisstjórn Íslands	<i>Iceland the e-Nation</i>	2008-2012	13	0

The first edition (1996) of the information policy is the most comprehensive one. In the second one (2004) there it is emphasized to use the benefits of technology to improve the quality of live and to increase the prosperity of the society. There is no mention of libraries and information literacy. In the third one (2008) there is strong emphasis on access to information, government administration on the Internet, and on information technology – information literacy is not mentioned.

In the Icelandic Government's policy on the Information Society strong emphasis is placed on information technology. Every new edition of the information policy has been shorter and sketchier than the edition before and more and more emphasis is placed on information technology.

### Information Policy of the Ministry of Education, Science and Culture

In the wake of every edition of the information policy of the Icelandic Government there has been a follow up edition of the Ministry of Education Science and Culture (*Menntamálaráðuneyti*, from 2009 *Mennta- og menningarmálaráðuneytið*) as shown on the overview on table two, where the occurrence of IT and IL is also analysed.



Table 2. The information policy of the Ministry of Education, Science and Culture

No	Date	Author	Title	Period	IT	IL
1	1996	Menntamálaráðuneyti	Í krafti upplýsinga [In the power of information]	1996-1999	197	0
2	2001	Menntamálaráðuneyti	Forskot til framtíðar [Headstart for the future]	2001-2003	53	0
3	2005	Menntamálaráðuneyti	Áræði með ábyrgð [Risk with responsibility]	2005-2008	70	9

The first edition (1996) was the most comprehensive and sophisticated one and libraries were supposed to give instruction in information seeking and information technology. It is interesting to see that the title [In power of information] reminds of the one by American Association of School Librarians and Association for Educational Communications and Technology (1988) *Information Power*. In the second version (2001) emphasis is placed on that all libraries in Iceland use one library system, on digital resources and accessibility. In the third one (2005) emphasis is on security in information technology and to learn competencies. Here the concept *information literacy* appears for the first time in an Icelandic information policy. It is defined as competency in using computers and information technology for acquiring information and knowledge and further skills to use information in a critical and creative way.

The Ministry has not published a new information policy since 2005 and no official policy from the Ministry of Education, Science and Culture exists from 2009.

### Reflection of the Information Policy in laws for primary and secondary schools

In the latest edition of the information policy of the Icelandic Government little emphasis is placed on libraries and information literacy.

Accordingly in the new Education Acts from 2008 for the primary, *The Compulsory School Act* (Lög um grunnskóla no. 91/2008) and secondary schools, *The Upper Secondary School Act* (Lög um framhaldsskóla no. 92/2008) the paragraph on school libraries was deleted and consequently the regulations on school libraries and information services.

The associations of librarians in primary and secondary schools as well did send in comments where the importance of school libraries and information services was brought to the attention of the Icelandic Parliament, Alþingi but they were disregarded (Þórdís T. Þórarinsdóttir, 2009).

In June 2010 amendments to the Upper Secondary School Act (Lög um framhaldsskóla no. 92/2008) was passed by the Alþingi (Lög no. 71/2010), where the paragraph on school libraries was included again, which is a considerable step forward.

### Reflection of the Information Policy in the *National Curriculum Guidelines*

In the general part of the *National Curriculum Guidelines* for primary school (*Aðalnámsskrá grunnskóla*) from 2006 (Menntamálaráðuneytið, 2006) and for secondary school (*Aðalnámsskrá framhaldsskóla*) from 2004 (Menntamálaráðuneytið, 2004) the concept *information literacy* does not occur and libraries and media centres are not mentioned. Information technology (upplýsingatækni) however is mentioned twice.

In the special curriculum for information and technological education for the primary school (*Aðalnámsskrá grunnskóla: Upplýsinga- og tæknimennt*) from 2007 (Menntamálaráðuneytið, 2007) is information literacy one of the educational goals.

In the special curriculum for information and technological education for the secondary school of the same title (*Aðalnámsskrá framhaldsskóla: Upplýsinga- og tæknimennt*) from 1999 (Menntamálaráðuneytið, 1999) one course (UTN 103) deals with information literacy – but not all students take the course because it is optional.

In Iceland, counter to most other countries, little emphasis is placed on information literacy in the national curriculum guidelines (*Aðalnámsskrá*) and that is in



congruity with the information policy of the Icelandic Government and The Ministry of Education, Science and Culture, where no emphasis is on information literacy.

## Best practice models – Examples

Many governments have realized how important information literacy is for the individual in the Information Age and have included it into the national curricula. Students have to be provided with opportunities to learn, how to find information, how to evaluate information for credibility and usefulness and how to use information in a respectful and ethical manner to build up new knowledge (Eisenberg et al., 2004).

An *International state of the art report* on information literacy (Lau, 2007) gives an overview of what is going on in the subject. The strongest promotion of information literacy seems to be, besides in the United States, in Australia, Canada, the United Kingdom and Ireland and South Africa. In addition the Netherlands can also be mentioned. Of the Nordic countries the most intensive activities seem to be in Finland and Sweden. Iceland is not mentioned in the report.

Here a Scottish model is presented as an example for best practice: *The Scottish Information Literacy Project: working with partners to create an information literate Scotland* (Irving & Crawford, 2010). The initial focus of the Project was to link secondary and tertiary education and to develop an information literacy framework. The goal was to produce secondary school leavers with a skill set which higher education could recognise and develop or which could be applied to the world of work directly. The aim was also e.g. to promote the understanding and development of information literacy in all education sectors, in the workplace, the home and the wider community primarily in Scotland but also elsewhere (Irving & Crawford, 2010). Work on the National Information Literacy Framework (Scotland) is ongoing and it has been expanded to include the primary school sector and lifelong learning.

The Scottish model is very ambitious and can be taken into consideration along with other best practices, when information literacy policy is developed for Iceland.

It can also be mentioned that the president of the United States proclaimed October 2009 as a national literacy awareness month in order to highlight “the need for all Americans to be adept in the skills necessary to effectively navigate the Information Age” (Obama, 2009). Here in Iceland awareness rising on IL is also necessary.

## Towards the future

From the above is obvious that not too much emphasis is placed on (school) libraries, information services and information literacy in the Icelandic educational system and Iceland does not seem to participate actively in international cooperation on information literacy but in *The Prague Declaration: Towards an information literate society* (2003) is stated that “Information Literacy should be an integral part of Education for All”.

The question arises why so little emphasis has been placed on information literacy in Iceland in order to reach the ambitious goals set in the information policy of the government and why was there not more follow out in the educational system. On the governmental and ministerial level here in Iceland there does not yet seem to be an active interest in information literacy. Hopefully this is changing. The authorities have to set the course. This summer the paragraph on libraries was re-entered in the Education Act for secondary schools but it is still missing in the Education Act for the primary school. In implementing the new law on the secondary school emphasis is on all forms of literacy (Þingskjal 969, 2009-2010). According to the web *New education policy* (Ný menntastefna, 2010) ongoing work is now on school reform, on new national curriculum guidelines (*aðalnámskerá*) and school curriculums (*skólanámskerár*) so

hopefully more attention will be paid to information literacy in the education policy of the future.

In higher education there seems generally to be more understanding of the importance of information literacy but it is even more important to include it in primary and secondary education because not all individuals enjoy higher education and it is generally acknowledged that information literacy is vital for lifelong learning.

As long as there is no holistic national policy and/or recommendations on information literacy the content and quality of the teaching of information literacy will differ too much from school to school, which is especially true for the cost-effective pressure and cost-reduction of the present time, when the country is going through a serious financial crisis. It should be the right of every student during his compulsory education (educational obligation of the state to 18 years of age) to become information literate to be prepared for living in the Information Society of today.

### **Recommendations for creating an Information Literate Iceland**

In the present Information Policy of the Icelandic Government and the Ministry of Education, Science and Culture not a clear distinction is made between information technology and information literacy and Iceland does not seem to participate in international programs on information literacy. Until now the emphases has been on information technology, digitizing resources and to make them accessible. Functioning information technology is of course prerequisite for teaching information literacy but information literacy skills seem often to be confused with information technology skills. Information literacy skills are, e.g. about finding, evaluating and using information in an ethical manner for education, work or recreation but information technology skills are about using computers, e.g. e-mail and programs like word processing and spreadsheets.

The next logical step should be to pay more attention to information literacy and its integration into school curriculum at all levels and to create national guidelines on information literacy and define the skills the information literate person has to master.

Some recommendations for creating an information literate Iceland:

- National policy on information literacy and an action plan.
  - Guidelines on information literacy.
  - Include information literacy in school curricula in primary and secondary education.
  - Include pedagogy of teaching information literacy skills in teacher education.
  - Increase information literacy in library and information science education.
  - In service training in information literacy for educators.
- Information literacy courses for adults to bridge the information literacy generation divide.

The Association of Professional Librarians in Secondary Schools (SBF) endorsed on its spring meeting 2010 a resolution on information literacy to the Minister of Education, Science and Culture and recommended that information literacy should be an independent component in the national curriculum, an increased emphasis should be placed on information literacy instruction and its integration into other subjects. SBF also recommended establishing special task force on information literacy within the Ministry of Education, Science and Culture (Samstarfshópur bókasafnsfræðinga í framhaldsskólum, correspondence, May 2010).

Extensive discussion has been of the digital divide, which is the gap between the information-rich and information-poor, which is a global issue. In order to bridge an

information literacy generation divide it is important to build up information literacy among adults, who have not had the opportunity to learn it in their formal education.

Desirable goal for the Icelandic society is that every citizen will be information literate and be able to make the fullest use of all information available on the Internet and be able to participate effectively in the Information Society.

The initiative and coordination for an information literacy framework and guidelines for all educational levels in the country has to come from the Ministry of Education Science and Culture, because it is responsible for the national education curricula and has the authority to appropriate funding.

## Concluding remarks

Information literacy is necessary competency for the 21<sup>st</sup> century. Nowadays in the age of electronic resources access to vast diversity of information is much easier than when information was limited to printed media. Everybody can publish rather cheaply on the Internet but the material is not necessarily edited or published by any quality standards. It is therefore vital for the individual to learn to evaluate Internet resources (Þórdís T. Þórarinsdóttir, 1999) and learn how to search for quality material. In Iceland every citizen with access to the Internet has access to the *Icelandic Consortium for Electronic Subscriptions* (Landsaðgangur að rafrænum gagnasöfnum og tímaritum) on the website [www.hvar.is](http://www.hvar.is) and to *Gegnir.is*, [www.gegnir.is](http://www.gegnir.is), the union catalogue for Icelandic libraries, which makes it even more important for the general public to be information literate to be able to make an effective use of the resources available. There the public libraries play an important role.

To meet the ambitious goals of the Icelandic Government's information policy there needs to be a national re-evaluation of the seemingly exclusive emphasis on computers and information technology in the education system. The technology alone will never allow Iceland to reach the positional inherent in the Information Age neither in schools nor in businesses. To be able to use the digital resources available in the country (Þórdís T. Þórarinsdóttir, 2005) one has to be information literate.

The information and knowledge society requires more computer skills, information technology and information literacy competencies than ever before – the individual has to become an independent and skilled learner to be able to cope satisfactorily with the multiform and diverse society of today. Information literacy skills make the individual more qualified to participate properly in the information and knowledge society and information literacy should therefore be an inherent component of formal education.

I think that the quoted words of Confucius the Chinese philosopher and reformer at the beginning of the paper apply for the learning of information literacy skills.

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