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# Information literacy for Information culture: Separation for Unity.Russian Research Results

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## *Introduction*

*When human civilization entered into the information society it gave birth to some serious problems – to prepare people timely to new ways of life and professional activity in high-tech information environment, to teach them acting independently in this environment, using effectively its possibilities and protecting themselves against its negative influence. The problems of establishing of information society are now the subject of intent attention of international community. The leading international organizations in this sphere are UNESCO and IFLA.*

*As the result of blending of two most important programs of UNESCO – "General Program of Information" and "Intergovernmental Program of Information" in 2000 there appeared the Program "Information for All". The very title of a new Program – "Information for All" – reflects an essential evolution in considering the studied problem: earlier it was considered as a technical and technological one, and now – as a humanitarian, social and political one. The dominant of a new world – wide information policy is becoming not technologies and even not information itself but its creator and final user – a man. The development of problems of people's training to the life in information society is mainly initiated by IFLA.*

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*In 2002 in Glasgow at the 68 session and IFLA General Conference a new sector was organized – Information Literacy Sector. This sector put a task of exposure of information literacy standards which had been formed in various libraries and countries and making up the international information literacy standard on their base. In 2003 in Berlin at the 69 Session and IFLA General Conference there was a wide discussion on the problem of the international information literacy standard's development. There were shown two main positions:*

*1) the information literacy standard isn't needed and it cannot be developed because of the complexity and little research of standardization's object – information literacy;*
2) *information literacy standard is needed but it isn't clear yet what it must be, what are its form and content.*

## The Russian research approach

We support the development of information literacy standards at both national and international levels. These are our arguments in favour of their development. First, we can't agree with the statement that information literacy isn't a technical object and being very complex, indefinite, oriented on a person can't be standardized because in a modern world standardization is long and actively spread not only to the technical sphere but social as well. The proof are the educational standards actively used all over the world for quality advancing of education of all levels and grades, for providing a unified national and international educational space. The standards establish goals and results of learning (knowledge, skills, achieved levels of learning), fix the compulsory minimum of content and level of a learner's instruction in a definite subject. So, it's possible to suggest that national and international information literacy standards may be the tools of controlling the quality of information preparedness of a person. Secondly, there is a causative and effective connection between information society establishing and cardinal changes in education. Information society is not accidentally called as "learning society". The grounds for it are the principal changes in the sphere of production and using of information and knowledge. The essence of the changes is the following: information and knowledge are the main transforming forces of society; novelty, transience, acceleration are the most characteristic features of life; the cycle of renovation both productive and social technologies is 6-8 years leaving behind the tempo of a generation change; life-long learning and ability to change a profession is an integral part of preservation of a person's social status; the destiny of every person depends on the ability to find, get, adequately perceive and productively use some new information in good time.

The important result of information society is development for a system of education is a necessity in creating such a tool with the help of which it is possible to evaluate the quality of a person's information talking, his/her readiness to live in information society. This instrument can be and must be international information literacy standard.

Having given the proof of legality to information literacy standards' development, we now turn to a more complex question: what must it be, what are its form and content? The answer to this question presupposes that we know perfectly well the volume and content of the notion *information literacy*, as well as we know the number of necessary and sufficient information knowledge and skills which give a person the assurance for his life in information society, give access to information and knowledge.

Russian research on information literacy has been looking for argumented answers to these and other questions for many years of research activity. Firstly, from early 80s of the 20$^{th}$ century the research was done by the library department of the Kemerovo State University of Culture and Arts. In 2000 a special scientific department – Information Technologies Research Institute of

Social Sphere (ITRISS) working within the international UNESCO program "Information for All" – was established in the structure of the University. ITRISS was opened on the initiative and support of the head of Russian Committee of the UNESCO Program "Information for All" E.I.Kuzmin. The ITRISS's activity is connected mainly with realization of two parts of the given program: "Development of a person's potential, his skills and knowledge in the age of information" (reference) and "Information technologies for education, science, culture and communications" (reference).

The necessity of making up a systematic presentation of information knowledge and skills and developing the concept of a person's training to the life in information society made us conduct a complex of research and development in the following directions:

1. Analysis of terminology in the sphere of forming of a person's readiness to work independently with information.
2. Study and generalization of Russian experience of educational and library establishments in the field of information knowledge and skills' formation.
3. Study the level of information knowledge and skills of different categories of information users including, before all, learning young people.
4. Identification and evaluation of the content of information knowledge and skills, which are needed to form subjects of educational institutions.
5. Development of the concept of formation information knowledge and skills in educational and library establishments, of the strategy and tactics of its realization into practice.

**1. Analysis of terminology.** While studying terminology the comparative analysis of notions of *literacy, information literacy, computer literacy, information culture* has been done, their transformation in Russian and international practice has been studied. Until early 80s of the 20th century dictionaries of the Russian language and pedagogical reference books fix only the meaning of the term *literacy* – a definite level of knowing of laws and rules of the native language with a combination of speaking and writing. Literacy is understood as a skill of reading and writing. Since 80s there is an enlargement of the volume of the notion *literacy*. Thus, one of the most authoritative dictionaries of the Russian language – the dictionary by S.I.Ojegov – in 1987 gives the following definition of the word *literate*:

"1. A person who can read and write, as well as write grammatically correctly.
2. A person who possesses necessary knowledge of information in some field.
3. Done without mistakes, competently" (Ojegov, 1987, **page**).

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In the international experience the questions of definition of the notion *literacy*, its statistical characteristics were discussed of the international meetings on statistics and programs of population's registration since the middle of the 20th century. UNESCO General Conference (the 10th Session, Paris, 1985) recommended all the countries while registering population to consider people to be literate if they could read and grasp what they had read and write a short essay about everyday life. Since the middle of 70s of the 20th century the international experience shows the refuse of elementary understanding of literacy, there is an enlargement of the volume of the notion *literacy*. Thus, at the World Congress of Ministers of education on illiteracy's elimination (Tehran, 1965) the term *functional literacy* was offered, which was defined as not only the ability of a person to make standard, mechanical operations with textual and numerical information but obligatory understanding and independent actions.

According to this approach in 1978 the text of recommendation about international standardization of statistics in the field of education suggested by UNESCO was revised; according to a new edition of this document, the literate is a person who can participate in all

kinds of activity in which literacy is necessary for effective functioning of his group or community and which gives him also a possibility to use reading, writing and counting for self-development and for the development of his group or community.

The modern interpretation of the notion *literacy* from the "Oxford Illustrated Encyclopedia: Peoples and Cultures" (**date)** is "literacy is an ability to read and to write" (**page number**). According to the UNESCO definition, a person is considered to be literate if he/she "can read and understand having read and write down short simple statements connected with everyday life" (reference) and to be functionally literate if he/she can participate in every activity requiring literacy for the successful work of his group or community. So, the actual content of notion *literacy* changed historically enlarging with the society growth, requirements to the individual's development – from elementary abilities to read, write, count etc to acquiring the minimum of social necessary knowledge and skills (functional literacy). The enlarging of the volume of notions on *literacy* found its way in the appearance of a number of coined terms: *library – bibliographical literacy, information literacy, computer literacy.* In connection with the rapid development and universal usage of computers the term *computer literacy* got a wide dissemination.

In Russia the idea of computer literacy is closely connected with the system of school education. In 60s in the USSR goals of computer literacy on the school level came to knowledge of possible computer applications and didn't mean a skill of practical usage for problem solving. At early 70s practical usage of computers was connected with teaching schoolchildren to program. From the second part of 70s the approach to the definition of computer literacy changed, emphasizing problem solving with the help of a computer. Important components of computer literacy of schoolchildren become knowledge about computer application in different spheres of production, culture, education as well as the changes in people's activity which are connected with them. Since the end of 80s the subject of study is spreading to the foundations of information culture where much attention is paid to new information technologies. Now the term *computer literacy* is realized as a sum of knowledge and skills allowing a person to use a computer in his professional activity and everyday life (**reference**).

In general, the fulfilled analysis of terminology shows that now in Russian and overseas practice the unified terminology is used without an exact definition of notions. It should be noted that instead of very close in meaning notions characterizing knowledge and skills of a person dealing with information such as *library – bibliographical culture, culture of reading, library – bibliographical literacy* more often the notions *computer literacy, information literacy, information culture* are used.

Realization of a fundamental role of information in the development of society; enlarging of information volumes; informatization of society; development of information technique and technology; establishment of information society – all these global factors gave rise to the appearance and development in Russia such a complex and polysemantic notion as *information culture*, defined the establishing of information culture as an independent scientific direction and educational experience.

We (**who do you mean**) see the following reasons that the term *information culture* got a wider spread in Russia than the term *information literacy*. There is a connotation of elementarity, primitivism, in the meaning of the very word *literacy* itself. The fulfilled analysis of the notion's development of *literacy* proved a tendency to the enlarging of this notion, and first of all introduction into it an aspect of activity what led to the notions of *functional literacy* and *functional illiteracy* – i.e. disability of a worker or a citizen to fulfill effectively his professional or social functions in spite of the received education.

As for the variety of knowledge, skills and independent actions of a man in such a global sphere as information and modern information technologies the term *information literacy*, in our opinion, is not quite proper. The notion of *information culture* corresponds more to the scale of discussed phenomenon (a phenomenon of information and information technologies, information society in general).

In this connection we suggest to use more capacious notion – *a person's information culture*. A *person's information culture* is one part of the whole culture of a person; an aggregate of an information outlook and a system of information and skills providing a purposeful independent activity in an optimal satisfaction of individual's information needs with the usage both traditional and new information technologies. It is the most important factor of a successful professional and non-professional activity and a person's social protection in the information society.

The main link connecting all the components of information culture is an informational outlook. The informational outlook is a system of generalized views into information, information resources, information systems, information technologies, informatization, information society and a place of a person in it, people's attitude to the environmental information media as well as people's believes, ideals, principles of cognition and activity provided by their views.

We'd (**again, who?**??) like to underline that in our interpretation the notion of *information culture* includes the notion of *information of information literacy* into its content. The more so it does not contradict the definition of the notion *information literacy* given in e-publication of UNESCO representative Mr. Abdelaziz Abid which was sent to the members of Sector of Information Literacy while getting ready to the 70$^{th}$ General Session and Conference of IFLA in Buenos-Aires.

The definition of information culture offered by us accords with "Recommendations about development and usage of multi languages and universal access to cyberspace" **(reference**) recently adopted by UNESCO. This document shows the way with the help of which information availability may be gained in practice. "The states – members and international organizations should assist to spread literacy in the field of information and communication technologies (ICT). The decisive meaning for information society has the development of "a human capital" including open, integrated and intercultural education in connection with teaching skills in the field of ICT. The training in the field of ICT must not be limited by a technical competence but also include learning of ethical aspects". This point of Recommendation is, to our mind, principally important, as it shows not technocratic but humanitarian approach to the solution of a problem of information availability. It also shows the transfer of a semantic dominant from technical means to the problems of a person's adaptation to the life in information society concealing the threat of dehumanization and the change of spiritual values with technological concepts and principles.

2. **Study and generalization of Russian experience.** The results of study and generalization of experience of educational and library establishments of Russia in formation of information knowledge and skills showed the following. In Russian experience the monodisciplinary approach dominates. As the result of it the information culture formation comes to the teaching of principles of library-bibliographical knowledge, liquidation of computer illiteracy, ability of rational work with a book etc. Having local character, not a single direction out of these is not able to solve a problem as a whole-information culture formation as an integrated phenomenon. It is also stated that the level is increase of information culture of the

society is seriously complicated because of the lack of specially trained pedagogical and information-library staff and necessary instructional text-books.

3. **Research of the level of information knowledge and skills of different categories of information users.** The object of study of the information culture level were such categories of information users as students, teachers, doctors, lawyers, engineers. The measurement of the information culture level was done according to the following parameters: an ability of independent formulation of the information need and verbal expression of it; knowledge of the main algorithms of information search depending on a kind of information inquiry: addressed, topical, factographical; an ability to derive information from the source and to form correctly the results of the information – analytical activity. It is stated that all these categories of information users have not high enough level of information culture what influences negatively an the success of learning or professional activity. Special attention was paid to the study of information culture of youth: high school students and students of colleges and universities. The research results showed not only high enough level of information culture of learners but indirectly proved the low level of information culture of teachers of schools, secondary and higher educational institutions. Thus, the information demands of youth reflected like a mirror the lack of information training of teachers.

**4. Identification and evaluation of the content of information knowledge and skills, which must form subject curricula of institutions.** The research goal is to identify in what way the secondary school forms and must form information knowledge and skills. The objects of research are curricula in all subjects of secondary educational establishments of Russia from the first to eleventh forms. With the help of content-analysis the key-words characterizing information knowledge and skills were picked out of the curricula. As the result two databases were formed: "Information knowledge" and "Information skills" with the whole volume of 5000 recordings. The study of the empirical data got made us think over the question: why does a school leaver have a low level of information knowledge and skills?" The analysis showed that the reasons for learners' unpreparedness to solve practical problems connected with information are in the following: the breaking of principles of systematization, sequence, technologization in forming of information knowledge and skills, the gap between theory and practice of information teaching.

In general, the research showed that information culture is equally important both for teachers and learners, and all the main parameters of education including its dynamics essentially depend on information culture. Alongside with educational establishments libraries traditionally are involved in the process of a person's information culture formation. But because of uncoordinated efforts, lack of the purposefully organized process of information teaching the level of information culture of society continues to be unjustified low.

5. **Development of the concept, strategy and tactics of formation of information knowledge and skills.** Resulting from the conduct of complex research there was the development of the concept of information culture formation in educational and library establishments. The essence of the concept is stating the thesis that mass rising the level of information culture of society is possible only within special training of modern users of information, that is the organization of informational education.

A person's information culture formation must be based, in our opinion, on the following general methodical principles: culturelogical, systematic, active, technological, on principles of integrity and long-life education. The principle of culturelogical approach is based on the realization of deep interactivity of categories *information* and *culture*, on the idea that information culture is an integral part of a person is general culture. From the point of view of the culturelogical approach

information culture lays down a person's outlook; it forms a person's valuables with regard to information as an element of culture; it prevents dehumanization and the change of spiritual values with achievements brought into existence by scientific-technical progress and unprecedented rise and development of new information technologies in information society.

The principle of systematization allows providing the integrity of presentation of information culture's phenomenon; to overcome the isolation in treatment of such traditional components as library-bibliographical knowledge, culture of reading, computer literacy on the base of introduction of a unified methodology; according to the statement that "the whole is more than the sum of its parts" to gain a new quality in identification of the notion *information culture* as a token of effective activity in solving the problem of information training of people.

The principle of activity means that a person's information culture formation is built not from the point of view of a librarian, information specialist trying to explain a pupil, student, teacher how a library is structured, or information service, or a computer and to initiate him in the details of library-bibliographical, informational or computer technologies but from the point of view of a user, an information consumer and those information problems he should solve in his educational, professional or entertainment activity.

The principle of technological approach allows considering a person's information culture formation as a pedagogical technology including a definite sum of methods and means providing to gain the set up result. It supposes the detailed setting up of the final result and an obligatory control of its accuracy as the base of gaining of the products with set up parameters. The obligatory requirements are massivity and reproduction of gained results. The breaking of these requirements and the lack of even one element in the set up technological chain inevitably involves decreasing the quality of the results.

The principle of integrity gives way to make up a unified strategy and tactics of a person's information culture formation with the orientation to the organic interaction establishments, each of which is devoted to be a participant of information universal education according to their specification. The realization of this principle opens perspectives of harmonization of joint work of these social institutions in gaining the mutual goal – a person's information culture formation.

The principle of life-long education foresees the usage of possibilities of all links of a system of long-life education (pre-school, secondary, professional, tertiary, post-graduation) for a person's information culture formation. Moreover at every of these links the teaching of information culture's foundation must be obligatory and specially organized.

The strategy of a person's information culture formation presupposes a special training, instruction of different categories of information consumers. It is suggested to introduce the course "Foundation of information culture" into all links of a system of long-life education. This course must meet the following requirements: the course content must have an integrated character; goals and tasks, a structure and course content must be precisely differentiated depending on the learners' category; instruction must have an activity-oriented, practical direction and be made up on active using of new technologies; teachers giving instruction must have a proper professional qualification as well as necessary educational-methodical aids.

The course "Foundations of information culture" is based on a block-module way of compiling. That means that apart from the category of learners the following compulsory blocks are included into the course: "Information resources of society and information culture"; "The main types of information problems and algorithms of their execution"; "Analytical-synthetical processing of information resources"; "The technology of making of information products";

"Information culture and new information technologies". The modules form the content of every block. Within the block the content of modules may be varied depending on the category of learners. The varied part of the course "Foundation of information culture" takes into consideration the age, way of activity (study, work), the profile and level of training, branch specialization, information culture's level, information needs and other factors.

At present the course offered by us "Foundation of information culture" is introduced into tens of secondary and professional educational establishments of Russia as our initiative. The tactics of introduction of this course into work practice of educational institutions means compiling of curricula, educational aids to help both teachers and learners. For this we developed the models of information culture formation in different educational establishments of the region. We made up four models of information culture formation differentiated according to the learner's level: learners of 1-11 forms of secondary schools; teachers; students of humanitarian universities; post-graduates and competitors of humanitarian universities. The models are presented in the form of a complex of curricula of the course "Foundation of information culture".

The results of research and development of ITRISS in a person's information culture formation are presented in the book published in Moscow in 2002 and 2003 "Formation of a person's information culture in libraries and educational establishments". In its contents there are such parts as "Theoretical principles of a person's information culture formation"; "Curricula of the course "Foundation of a person's information culture formation"; "Methods of formalized making up of information products"; "Diagnostic means of the level of a person's information culture"; "Reference-illustrative materials". This book is published within the UNESCO Program "Information for All".

**Conclusion**

More than 20 years' experience of research, development of the concept of a person's information culture formation, making up a complex of curricula differentiated according to the age and kind of activity of learners allow us to affirm that the development both national and international standards of information culture (information literacy) is quite possible. We are sure that there cannot be any abstract standard of information literacy. It must always be oriented into a concrete category of people and take into consideration their information needs, specification of their educational and professional activity. So, we can speak about the development of a system of standards of information literacy oriented into different groups of information consumers according to the grade and levels of general and professional education: pre-school, general secondary, secondary professional, under-graduate, post-graduate. All the standards must correspond to the main system-making principle – the principle of continuity, succession, "compatibility" of information education. Moreover the approach to the development of national standards of information literacy will be defined by a number of different factors: the level of economical and technological development, informatization extent of the country, the presence or lack of national information policy, the general level of a population's education as a whole, the level of education itself, a situation with the literacy of adult population and, of course, national culture and traditions.

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