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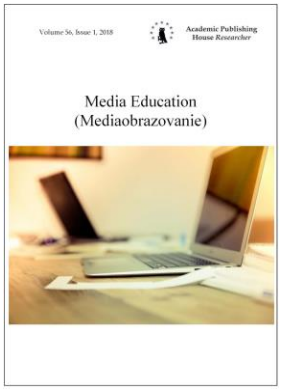

Low Level of Student Information Literacy and Ways to Overcome It

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Abstract

Information literacy is the most important factor ensuring personal success in the modern information society. This study presents the data on the level of the information literacy among first-year students and the ways to develop it via student research activity. The author analyzes the approaches to the definition of information literacy and highlights its components. Today, one needs to be sure that future teachers have mastered certain information literacy means to be able to organize the students' learning process in an effective manner and guide their educational and research activities. The author identifies the parameters for measuring the level of information literacy among students. The results of the survey of the first-year students allowed the author to identify the level of their information literacy. The study points to the weaknesses of developing students' information literacy at Nizhnevartovsk State University (KhMAO-Yugra, Russia). The author focuses on the arrangement of student research and concludes that the ability to do research is directly related to information literacy, since research activities cultivate student information skills.

Keywords: information literacy, media literacy, research, publications, students, skills, critical thinking.

1. Introduction

Information is a specific feature of modern life. The ability to find and interpret information is becoming an increasingly sought-after feature. This phenomenon has become especially noticeable in the educational environment. It is important to emphasize that information literacy (hereinafter IL) is directly related to improving the level of students' knowledge in the search, management and use of information. This cultivates the skill to search for information rather than produce it.

The first-year students with a low level of IL experience considerable difficulties in searching for the required information. It is particularly difficult for them when they want to study all of the existing literature sources on the subject. It is a problem for them to refer to, analyze and synthesize the given information, make conclusions, generalize and classify the historical facts. It is revealed through the fact that students find it difficult to prepare a scientific text (thesis, article, abstract). The skill of developing an independent text is more and more often replaced by the skill of constructing a text from discrete pieces of information found. The former skill is mastered through systematic work with information and particularly via research activity. There is a correlation between the level of IL and the quality of performing a study. The level of IL affects the

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quality of the student research work, which, in its turn develops the content and cognitive levels of information literacy.

2. Materials and methods

This paper is descriptive and exploratory in nature, with elements of simple statistics. The main sources for the article are the publications of Russian and foreign researchers, UNESCO program and methodological papers. In our study we used such research methods as causal study, analysis, synthesis, generalization, classification, systematic review as the leading method, as well as observation and survey. Historical and situational methods allowed us to reproduce the assessment approach to the problem of information literacy. The observation, carried out in 2010–2019, allowed to observe and record some students' behavior in the field of information literacy. Surveys were conducted annually at the beginning of the study year (2010/11-2019/20) and covered a group of students who carried out research work at the Department for Russian History of Nizhnevartovsk State University. The sample of this study was composed of 199 students. Results of students' research activity were analyzed through 2011–2019 Russian History Department progress reports. These methods and materials allowed the author to collect empirical facts and reach the purpose of the study. Our points are also based on systemic and comparative approaches.

3. Discussion

The problem of how to develop IL is seen as a most relevant in the Russian and foreign scientific studies. The increasing number of researchers, librarians, educators, media specialists from all around the world are studying the issue of information literacy. IL plays a big role in (re)constructing knowledge bases, social networks and information landscapes (Lloyd, 2016: 5). For us, the issue of student information literacy is important in terms of training future teachers. A higher education system forced to look for adequate ways to cultivate student information literacy. However, this problem cannot be considered in isolation from the approaches currently prevailing in the world. Today the need for promoting media and information literacy is essential and these modes of new literacy are recognized almost universally as being a part of key competences in the educational system, especially in UNESCO (Kotilainen, 2012: 1). UNESCO carries out a large number of activities aimed at the IL development, including consultative meeting about updating UNESCO's model curriculum on media and information literacy (MIL) for teachers held in September 2019 (Updating..., 2019). It is gratifying to note that our region (KhMAO-Yugra) held two international conferences under the auspices of UNESCO devoted to the problem of MIL (2016, 2018) (Media..., 2017; Ugra..., 2018).

Many articles have been published on the subject of information literacy. The research sources available on the topic can be divided into several groups.

The first group includes works that define the term "information literacy". The term "information" is ambiguous. Yu.V. Kryanev believes that information is not reduced only to communicative activity, but it acts as a removable, reduced uncertainty. If the message does not remove uncertainty, it does not contain information (Kryanev, 2012: 15). In our study, we follow this approach. The concept of IL is defined as a set of knowledge and skills necessary for the effective use of information sources (Digital..., 2013: 5). IL refers to the ability to recognize when information is needed and to locate, evaluate, effectively use and communicate information in its various formats (Media..., 2011: 186).

The works by A. Silverblatt are widely known in the modern scientific community. A. Silverblatt states that IL is based on a set of principles and strategies enabling individuals to make sense of the information we are exposed to on an ongoing basis (Silverblatt, 2016: 54). A.V. Fedorov gives the following definition of IL: "Information literacy is the ability to analyze and synthesize reality, the ability to read the information text, it is knowledge of the basics of information culture" (Fedorov, 2017: 13). N.I. Gendina compared approaches to the definition of IL put forward by Russian and foreign scholars (Gendina, 2007: 57-69). A.B. Klimova emphasizes that in the national scientific environment, the use of the term "information literacy" has limitations associated with the semantics of the term-forming concept (Klimova, 2013: 78).

The emergence of the new term "media and information literacy" (MIL) and discussions about this term indicate that there is still no clear understanding of the definition, scope, and content of the concept, as well as the skills to be developed. Media and information literacy is a

complex concept proposed by UNESCO in 2007. MIL covers all competencies related to IL and media literacy that also include digital or technological literacy (Media..., 2019). We proceeded from the definition of MIL adopted in the 2012 Moscow Declaration on Media and Information Literacy. "MIL is defined as a combination of knowledge, attitudes, skills, and practices required to access, analyze, evaluate, use, produce, and communicate information and knowledge in creative, legal, and ethical ways that respect human rights" (The Moscow..., 2012: 2). O. Pilerot emphasizes that the elusive phenomenon of IL is traced, narrowed down, and conceptualized in three different ways: as a "label" for a field of research, as an empirical entity; and as a theoretical notion (Pilerot, 2016: 6).

The second group includes the works proving the need for special information training required to cultivate information skills. Information technology opens up huge opportunities for students possessing information (knowledge). A student is required to be able to work with a large amount of information. Information and communication technologies make it possible to access almost any knowledge. However, if a student does not have IL, he or she is lost in the vast world of information. Processing a large amount of information disorients his/her thinking. It is obvious that special information training is essential (Gendina, 2007: 59).

S. Black points out three theories (Development, Interest and Self-direction). They are of great importance for the formation of media literacy. The scholar describes each theory, draws parallels, and discusses the implications of these theories for the teaching of information literacy. The results of the scholar's study are interesting. S. Black makes a complete analysis and shows that IL provide a valuable perspective for higher education in terms of designing training that helps students transit to more mature levels of cognitive development, personal interest and self-directed learning (Black, 2018: 211).

B. Markowski, L.F. McCartin, S. Evers presented the results of a special course developing student information literacy via a combination of course-integrated sessions and credit-bearing courses. A first-year experience course aims to assist students in their transition from high school to college. It is an elective course with a broad focus on reading, writing, critical thinking, and communication skills. Course objectives include using effective research skills to retrieve and evaluate information from a variety of sources (Markowski et al., 2018: 128-149).

It should be noted that there is no systematic approach to cultivating meta-subject media and information skills among student majoring in teaching in the Russian higher education tradition, which is noted by S.I. Gudilina in her study (Gudilina, 2019: 95).

The third group consists of research works that consider ways of IL development. The UNESCO Education for All Global Monitoring Report 2006 proposes four ways of how literacy has evolved based on disciplinary traditions. First, literacy is considered as a separate set of tangible skills such as reading, writing, and numeracy. Second, literacy is viewed as being reliant on context that goes beyond the acquisition of skills to the use and application of those skills in real-life situations. Third, literacy is seen as a learning process (Grizzle, Hamada, 2019: 242). The issue of ways to form information literacy is one of the most relevant in the Russian and foreign scientific studies. Andrea M. Bergstrom, M. Flynn, C. Craig emphasize that the question of IL has been discussed for a long time. Unfortunately, few scholars have explored improvements in media literacy skills (Bergstrom et al., 2018: 113). These researchers use the term "critical media literacy" and state, "We also took into account that critical media literacy involves cultivating skills in analyzing media codes and conventions, abilities to criticize stereotypes, dominant values, and ideologies, and competencies to interpret the multiple meanings and messages generated by media texts" (Bergstrom et al., 2018: 116).

Some scholars consider that information skills are formed by different disciplines. Researchers from Sam Houston State University (USA) rightly believe that studying how people interact with information can be approached from many disciplines (Aboulkacem et al., 2018: 40). It is recognized that it is no easy task to teach students to work with information presented on different media and to cultivate their skills. The researchers emphasize that teachers have noted the lack of student readiness and their tendency to be limited in their media literacy skills beyond the ability to simply access content (Bergstrom et al., 2018: 114).

Effective education demands that educators must have sufficient information literacy competencies as well as the competencies to promote student information literacy. We agree with M. Simons, W. Meeus and J. T'Sas who believe that educational institutions are teaching learners (pupils and students) to use media appropriately (Simons et al., 2017: 100). It is very important to note that there is a large and growing body of research sources arguing that working with data is a

key skill today. R. Bhargava and C. D'Ignazio propose that the pedagogical approach to building tools for data literacy among learners should pull from the rich histories of traditional literacy education and designing computational tools for learning (Bhargava, D'Ignazio, 2015: 1-2). They consider that data literacy includes the ability to read, work with, analyze and argue with data (Bhargava, D'Ignazio, 2015: 1).

D. Stebbing, J. Shelley, M. Warnes (Anglia Ruskin University) conducted a study called *What academics really think about information literacy*. They found six key areas of concern emerged around the teaching of IL: students transitioning into higher education, developing evaluation skills, the significance of the undergraduate major project and discipline differences, the information landscape and the perceived need for preparation for IL at work. The article discusses the findings, difficulties surrounding students achieving adequate IL and considerations for future practice in delivering focused IL support (Stebbing et al., 2019: 21-44).

The experience of students' working with research tasks is presented in the article by Amanda L. Folk (Ohio State University).The author notes that joining an ongoing discourse about a relatively new topic, particularly in an academic context, is challenging for many students. The author emphasizes the ubiquity of research assignments in the US undergraduate education and the direct connections these assignments have to students' academic outcomes (Folk, 2018: 45, 55).

Russian studies show that higher education, experiencing a deep crisis, as well as the entire education system in Russia, is not fully coping with the task of developing the cognitive aspect of personality. In this regard, undergraduates are not too ready for research activities. IL training is becoming an urgent task. Some scholars believe that IL cannot be reduced only to utilitarian skills of information search and processing. There is an indissoluble connection of IL with development of personal intellectual abilities (Information, 2010: 12). These conclusions are of fundamental importance. They are based on important empirical data and observations, and we fully support this approach.

Russian scholars consider the following major ways of cultivating IL: studying the perception of information-search activity; working in library-search systems; cultivating the abilities and skills of representing and assessing the information. Besides, some researchers discuss developing the resource base for student research activities as a teaching activity (Slyusarenko, Matrosova, 2016: 123). IL education aims at training all students for academic activities, so it is important to assess their initial knowledge and investigate the differences as well as personal factors, such as motivation, in order to better address the gaps (Dolničar, Podgornik, 2018: 24).

The fourth group of research papers are the publications revealing the correlation between information literacy and critical thinking. There is an opinion that information literacy and critical thinking are interrelated. Many scholars have considered this issue. A. Silverblatt pays great attention to the problem of studying media literacy and critical thinking in modern conditions (Silverblatt, 2018: 66-71). The author suggests that information literacy applies critical thinking skills to the assessment of information (Silverblatt, 2016: 55). Media literacy is most commonly described as a skill set that promotes critical engagement with messages produced by the media. M. Bulger and P. Davison put forward the argument that media literacy is the "active inquiry and critical thinking about the messages we receive and create". Most proponents emphasize this connection to critical thinking (Bulger, Davison, 2018: 3). Logic is very clear and it is a good thing to be able to practice in one's reading and writing.

According to S. Aboulkacem, critical thinking should be applied not only to the information source, content, thinking and format, but also to the medium itself (Aboulkacem et al., 2018: 41). Every student passes through the stages of critical thinking development. The university has an important role in cultivating this ability. J.M. Budd and A. Suorsa admitted that a set of skills must be a component of IL instruction, but it is also proposed one requires a way of thinking about information, informing, and an individual's relation to information and to the sources of information (speakers) (Budd, Suorsa, 2018: 14).

The fifth group of research works are the publications revealing the influence of the Internet and media technologies on information literacy. When we speak about IL, the emergence of the Internet and social media have dramatically altered media coverage and perception. Researchers are now studying the novel social dynamics introduced by new media technologies (Mason et al., 2018: 4). S. Aboulkacem and L. Haas found that students get fatigued and overwhelmed with information (Aboulkacemet al., 2018: 46). A number of scholars denote that students experience great difficulties when working with information, which is explained, among other things,

by information redundancy. It is becoming one of the most important humanitarian problems. According to M.A. Ivanov, the danger of creative thinking degradation is related to the overabundance of information, since today consumer attitude to knowledge rather than creative one is initiated (Ivanov, 2012: 61). A study conducted by A. AlDahdouh presents a model showing how students form connections to different kinds of resources, along with the criteria they use to decide on which resource to choose (AlDahdouh, 2018: 15-45).

When young researchers are working on their publications, the goal is not only to collect information, but also to form IL. A similar position is shared by Andrea M. Bergstrom, M. Flynn, C. Craig. They put emphasis on the importance of communication technologies in modern society. Most information is distributed through a variety of channels, making the ability to "read" and understand a range of mediated formats an essential skill to successfully navigate today's culture (Bergstrom et al., 2018: 113). It is difficult to disagree with this statement.

N.S. Poleva raises the problem of information socialization. The researcher believes that the information technology approach to information socialization requires the cultivation of new skills and competencies. This initiates the development of numerous models of digital literacy and digital competence. The author emphasizes that digital technologies are developing faster than the list of skills and competencies (Poleva, 2018: 27).

Difficulties with the perception of scientific information can be explained in terms of psychology. S.V. Pazukhina and S.A. Filippova believe that the perception of information at different stages of mental development depends on the formation of cognitive mental processes, consciousness and self-consciousness, personal characteristics, life experience, protective mechanisms of the psyche, and personal worldview (Pazukhina, Filippova, 2018: 50). It is extremely important to group cognitive skills, willingness to learn, and the ability to critically relate to material and information.

The sixth group of research works includes publications that address the problem of information literacy assessment. There are many studies on this issue, such the Information Literacy Instruction Assessment Cycle (ILIAC) providing a systematic process for documenting and improving both librarian instructional ability and student IL skills (Oakleaf, 2009: 539-560). In 2012, K. Schilling & R. Applegate made a review of research sources and found self-reported attitudinal surveys to be the most common method of assessing IL (Schilling, Applegate, 2012: 258-269). B. Markowski, L.F. McCartin, S. Evers presented a study using rubric-based assessment: Sources, Evidence, Access and Use (Markowski et al., 2018: 128-149). J. Belanger, N. Zou, J.R. Mills, C. Holmes, & M. Oakleaf determine rubric assessment of IL as an important tool. They presented practical recommendations for implementing rubric assessment in a variety of institutional contexts. These recommendations focus on four areas: building successful collaborative relationships, developing assignments, creating and using rubrics and using assessment results to improve instruction and assessment practices (Belanger, et al., 2015: 623-644).

Another group of researchers has advanced the method of evaluation via headings. This study demonstrates information literacy skill benchmarks. T. Eastman, K. Lundstrom, K. Strand, E. Davis, P.N. Martin, A. Krebs, A. Hedrich established new library instruction classes, which targeted the skills students struggled with, mainly topic refinement and information synthesis. To measure the impact of the modifications, the authors used two rubrics as well as a citation analysis to identify the shifts in student learning. Findings indicate that the new lessons contribute to student improvements in synthesis, topic refinement, and source variety (Eastman et al., 2018: 64-85).

A. Carbery and S. Leahy presented the findings of a study carried out by librarians in Champlain College who developed a two-pronged authentic assessment approach to measure IL levels and determine the information seeking habits of students while conducting research for academic purposes. They devised and developed an IL rubric and a citation analysis checklist for the assessment of first-year annotated bibliography assignment papers. The study illustrates the merits of rubric-based, citation analysis assessment measures using authentic student coursework as a highly effective method of determining student outcomes assessment and information seeking habits while engaging in academic research (Carbery, Leahy, 2015: 74-90).

F.F. Sharipov proposes to consider the evaluation parameters through the concept of "information literacy of the individual": computer literacy of the individual; knowledge about information; presence of the individual information needs of a wide range; the ability to navigate in information flows; the ability and skills to save information for reuse; the development of

algorithmic thinking of the individual (Sharipov, 2013: 169). These parameters are essential for the validation of information literacy.

In addition to the selected groups of studies, there are other research works. The discussion shows that the issue of information literacy is relevant both for national and foreign researchers. However, there are some differences in the definition of basic concepts and approaches. Russian and foreign scholars agree that students have a low level of IL. Researchers offer some ways of cultivating student information literacy. It is also obvious that IL cannot be reduced only to utilitarian skills of searching for and processing the information. Without the development of human intellectual abilities, it is hardly possible to solve the problem of information literacy.

4. Results

Education is currently facing a critical challenge of information literacy for digital society. Let's consider the history of student IL. It should be noted that media-information literacy is not taught in our University as a separate subject. There are two academic course units for bachelor students, such as Information Technologies, Fundamentals of Mathematical Information Processing and Information and Library Support of Education. The University has launched the course called Information and Communication Technologies and Media Information Literacy for the academic year 2019/20. There is a course called Media Competence in Professional Activity for master students majoring in teaching. The educational process remains spontaneous in this area.

A low level of student information culture is a serious obstacle in their educational and research activities. This problem is typical both for Russian and foreign university students. Students enroll in university from diverse educational backgrounds, potentially possessing differing levels of information literacy and related skills (Dolničar, Podgornik, 2018: 24). A. Littlejohn argues that many new approaches to teaching in higher education tend to focus on supporting students to pass exams, rather than to learn critical skills and knowledge (Littlejohn, 2019: 2).

How can we help students understand the importance of IL? Which method is the most effective? The idea is the following: what shall a modern student do about it? These questions are the main ones for our study. We assumed that IL refers to the availability of knowledge and skills required to perform the following tasks: effective search of information, its organization and transformation, identification, interpretation and analysis, as well as its use for specified purposes. These skills are largely cultivated through student research. However, our experience of working with students and managing their research activities shows the lack of IL among university students, especially during their first years of study.

The decline of student information literacy has been observed since the beginning of 2000s. The spread of the Internet has radically changed the educational environment. It took some time to develop the methods used to work in new social conditions. Book work began to decline, which immediately affected the level of literacy. Meanwhile, the reduced level of speech and intellectual development are incompatible with the conditions of the rapidly developing information society (Rotova, 2013: 9). These changes have negatively affected the quality of education in general, and education in particular. University applicants have average and weak training, as well as low level of IL. With regard to the Russian experience, the research shows a general decrease in the level of student' literacy, their weak readiness to study at higher education programs. Many students have difficulties in working with scientific texts and prefer using educational and popular literature and watching films. The fact is that students have no idea about the diversity of information resources. They have little knowledge of information retrieval algorithms and are unfamiliar with the methods of analytical and synthetic information processing. As a consequence, they do not know the technology of preparing their own information products. One potential way to deal with academic alienation and to help students join scientific discussions is to incorporate their identities, as well as their prior knowledge, experience and interests into their academic work (Folk, 2018: 47).

By exploring the level of information literacy among first-year students, we identified the following parameters: the ability to search for the required information, to know the algorithm for information search, extraction, text development and design. The aim of the study was to identify the level information literacy among first-year students and determine the areas for individual support during research activities. The survey included the following questions: Where do you usually look for information on history? Do you know how to work with the catalog? Do you know the rules of bibliographic text design? Do you know the algorithm for writing a text?

Over the past 10 years, the survey showed the following average results: students use the resources of Google and Yandex engines only; students use unverified data (for example, data from The Free Encyclopedia Wikipedia); 23 % of respondents said that they do not know how to use the catalog; 51 % of students claimed they ignore the rules of bibliographic text design; only 16 % of first-year students understand that a text should have an introduction, the main part, and a conclusion. These data are provided by students themselves, while the practical situation is even worse. In a recent survey, 84 % of first-year students experienced difficulties when working with information.

Observation and identification of information literacy of first-year students was carried out in the real educational process. Supervision was provided for fixing the following elements of information literacy: knowledge bases information resources; possession of information retrieval algorithm; possession of methods of analytic-synthetic information processing; technology ownership and readiness to prepare own information products. The study covered students and historians of the 1st course. The total number of students was 256.

Table 1. The level of information literacy among first-year history students (2010–2019)

	Year of admission of students to the University									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Knowledge bases information resources	10 %	10 %	10 %	10 %	10 %	15 %	20 %	20 %	20 %	25 %
Possession of information retrieval algorithm	5 %	5 %	5 %	5 %	5 %	10 %	10 %	10 %	10 %	15 %
Possession of methods of analytic-synthetic information processing	10 %	10 %	10 %	10 %	10 %	15 %	17 %	20 %	18 %	30 %
Technology ownership and readiness to prepare own information products	10 %	10 %	10 %	10 %	10 %	15 %	20 %	18 %	20 %	30 %

The improvement in indicators has been observed since 2015. This is due to the fact that schools have begun to pay a little more attention to working with texts (the introduction of Federal Educational Standards). Since 2015, the main normative document in teaching history has become the Historical and Cultural Standard.

However, when working with bachelor students we have noticed that many of them use low-quality resources in their research and study activities. Information literacy is based on the abilities to request, search for, evaluate, process, and create information using various sources, as well as the ability to navigate the software in the ever changing world of new technologies and rampant growth of information, which are to be developed during high school period (Kravchenko, Petukhova, 2017: 76).

Our experience shows that the ability to work with information, to transform it, to present it in the required form is mainly developed via individual student support. Student research activities are guided by an adviser. We consider research to be original work addressing the issues that have not undergone extensive studies. Such work is aimed at obtaining new knowledge. 25 years of

lecturing experience and research guidance at the Department for Russian History of Nizhnevartovsk State University showed effective ways of student skills development. It is important that the teaching staff should adopt a principled attitude towards students' research, which is a top priority of our activities. It pushes the frontiers of knowledge in new and exciting areas.

Over the years, the following algorithm for individual student support has been developed: first, the department staff members meet first-year students and present scientific studies performed by professors, graduate and undergraduate students; the best senior students present their research results. First-year students get time to decide on the research area and research adviser. During the first and second semester, students attend conferences, seminars and other scientific events of the Department. As a rule, most motivated students decide upon the scientific area by the end of the first semester, choose their research topics in accordance with the research areas developed at the Department.

Russia being a country of regions, the major area for student historic research activity is studying regional history, particularly, the history of North-Western Siberia. The students receive academic support at all stages of their research activities and develop necessary skills. The activities are based on a system of individual tasks following a particular algorithm.

1. Defining a research topic.
2. Scheduling.
3. Retrieving information, collecting research material (identifying/recognizing information needs: What do I want to find out? What kind of problem am I trying to solve?).
4. Identifying the level of prior studies of the problem (making review of the research literature sources on the subject).
5. Defining the purpose of the study (writing down initial thoughts, making a diagram or mind map to help organize the ideas).
6. Developing a source base through published and archival documents. (Determining sources of information: Do I use the internet, books or television? Do I use primary, secondary or tertiary sources?).
7. Defining a working hypothesis.
8. Writing the text of the study, defining the structure and composition.
9. Making self-assessment of the work done; analyzing the results.
10. Editing.
11. Presenting the research results at student scientific conferences; developing reports and abstracts.
12. Registering the study in accordance with the requirements.

At the first stage of research activities, students develop a database of information resources, locate or search for information. The guiding questions here are the following: Where should I look for information? Who can I ask for help? Nowadays, there is a great variety of electronic information resources, but they are of different quality.

A low level of student information literacy is manifested immediately at the stage of collecting information. The students enrolled in the University do not know where to look for the required information resources and do not distinguish between concepts of source and research. The 10-year study of the first-year student information literacy showed that before the admission none of students knew of the electronic library (elibrary.ru), launched in Russia in 1998 and integrated with the Russian index of scientific citation. The students practice searching for resources on the library portal and use the results of modern research in their scientific studies. As a matter of priority, our students analyze the availability of publications and sources on history in some regional universities, museums, libraries and state archives.

Many students have difficulty in finding information for their research. The right choice involves extensive comparative and analytical work with an overabundance of information. For students it is rather difficult to collect all of the existing literature, since they do not know where to look for the necessary texts. 50 % of first-year students are unable to find scientific texts for their task. At this stage, research advisers spend a lot of time explaining where and which resources are available. Our task is to acquaint novice researchers of regional history with qualitative resources and their location.

So, the first step is providing information to students about research databases. Next, we teach them to work with the data by developing the skills and techniques of working with information. Nowadays, students face an overabundance of information. The scholar M.A. Ivanov

emphasizes that overabundance of information entails the psychological mechanisms of blocking originality (Ivanov, 2012: 61). For analyzing and evaluating the quality of information, students need to ask themselves the following: *How do I know the information is reliable?* There is still a problem of efficient reading and a weak mechanism of semantic forecasting. Students lack anticipation and read every word, lacking flexible reading strategy. Students fail to set goals or use the rules of text processing. Thus, we teach students to apply rational reading (types and algorithms of reading) and ways of fixing information, and give them recommendations on how to read scientific papers and monographs, how to take notes, how to make references to resources. Our goal is to teach students to realize their misunderstanding, to give them essential tools allowing them to receive and transmit information in the form of a written text. Therefore, we develop reading skills of extracting information, creating a common understanding of the text, translating and understanding the information, considering the text content and form.

B. Markowski, L.F. McCartin, S. Evers (University of Northern Colorado) came to similar conclusions. The authors conducted a performance-based assessment of information literacy to determine if students in a first-year experience course were finding relevant sources, using evidence from sources effectively, and attributing sources correctly. Study results indicate that students in the sample were able to find relevant and appropriate sources for their research papers; however, they were not using evidence to effectively support an argument or attributing sources correctly (Markowski et al., 2018:128-149).

The next important stage is grouping the identified material, structuring the text, organizing, storing, or archiving information. Here, students need to ask themselves the following: How do I efficiently organize information from multiple sources? A historian must be able to analyze, summarize and theoretically comprehend the facts. By and large, any description and grouping of facts (even chronologically) contains a generalization element. A student needs to highlight the principles of grouping the collected material. Similarly, the classification of the material should be carried out (Zverev, 2016: 63-64). After that one needs to develop a working hypothesis, i.e. the initial version of the sequence of answers to the questions, in order not only to reveal the essence of the issues, but also to find the form of evidence, the correspondence of conclusions to the content. After that, a student can develop a structure and compose a scientific work by drawing up and then adjusting a primary plan. Partitioning the research material is also a difficult task for a student.

The case with information analysis and synthesis is even more drastic. This work is effectively performed only by one of 10 students. We teach students to perform a primary analysis of the text, encouraging to make information extracts, to group and classify the data. As a result of this titanic work, most of the graduates acquire the ability to search for, analyze, interpret and evaluate information, as well as to present the data according to the required form. Drawing up an abstract and writing conclusions are tasks that half of the students get ready for just at the end of their undergraduate studies. At the same time, poor knowledge of English is a serious problem for many students. Here, the downsides of school education are obvious. Poorly trained undergraduates experience difficulties during the University learning.

It is clear that students find it difficult to prepare a scientific text (a thesis, an article, or an abstract), since they fail to see the structure of the text. The research adviser explains how to present the material in accordance with the existing guidelines. To learn to use the information in an ethical, efficient, and effective way, students answer the following: How do I take copyright into account? To create and communicate new knowledge, they think of how to present the available information. Developing the first version of the script is a very difficult task for a student. Having developed it, a student presents it to the research adviser for verification. Next comes the correction, which can take place many times until the text meets the requirements. 80 % of students have problems with summarizing the information. Eventually, students understand it is a complicated thing to develop a scientific text.

At the same time, the level of self-efficiency in developing the final and research papers is variable among undergraduate students. Research results are expressed not only in student final papers, but also in the number of academic publications.

Table 2 shows that the research activity has been successful and there has been an increase in the number of student academic papers. However, over the years, the data has fluctuated, with highest rates achieved in 2013, 2014, 2018, and lowest results in 2011, 2016, 2019.

Table 2. Results of student research work (2011–2019) (Department for Russian History)

Year	Number of students	Number of published scientific papers	Average number of publications per 1 student	Number of scientific reports prepared for conferences	Average number of reports per 1 student
2011	22	26	1.18	19	0.86
2012	35	37	1.05	39	1.11
2013	18	26	1.44	26	1.44
2014	16	35	2.18	29	1.81
2015	21	38	1.80	21	1.0
2016	37	36	0.97	35	0.95
2017	20	47	2.35	23	1.15
2018	17	52	3.05	47	2.76
2019	13	22	1.69	12	0.92
Total	199	319	1.74	251	1.3

As a rule, university graduates have several publications. However, sometimes a student with a low level of prior motivation, academic experience and maturity would have no publications and can write final papers only. Some students get distracted from their research, lacking a systematic working effort and unable to manage their time. Information literacy skills depend largely on inherent self-efficacy.

Throughout research activities, the level of students' IL gets increased. Here, we observe the following pattern: most relevant skills include selecting information rationally and effectively; understanding and defining the need for relevant information; assessing the accuracy and reliability of the processed information; selecting, filtering, analyzing, developing information layout; systematizing, generalizing, structuring and interpreting the final volume of information; searching for new ways to transfer, present and use information as one's own knowledge; developing information products and presenting them to other users to meet various objectives.

It is obvious that IL correlates with critical thinking, developed through information processing. Working with information requires a long and systematic exercises. Whilst the awareness of competences gained is essential, it is only a start in achieving one's study, career and life goals through the appropriate use of information means. In this respect, information literacy is an element in the ongoing development of an individual identity. Student research activities provide skills that have no expiration date, for whichever major a student chooses, he or she is laying a foundation for life-long learning.

5. Conclusion

The results of our study point to an interesting trend: the level of information literacy among first-year students is rather low; although the students achieve certain results in searching for information via the Internet, they tend to refrain from using library sources and databases. Therefore, information search and awareness of the databases concentrating high quality resources is a common modern problem. Since the beginning of the new Millennium and the spread of the Internet, we have observed a decline in the level of student information literacy. Moreover, the increasing amount of information entails frustration among students, since it's becoming more and more difficult to find high quality information. We have observed another problem among first-year students. Namely, they lack a clear idea of text structure and bibliographic design, as well as consequent information and analytical skills. Our experience allows us to conclude that providing individual support to students within their research activities is an effective way to solve the problems of information literacy. The effect of student research work is obvious: students improve their information literacy and develop information culture. The development of research competencies and information culture will not only contribute to the ability of performing research, but will also allow students majoring in teaching to grow professionally and provide high quality training to schoolchildren in future.

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