RESEARCH INTO KNOWLEDGE COMMUNICATION WITHIN THE ACADEMIC ENVIRONMENT

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Abstract: The research devoted knowledge communication within the academic environment. Participants from different Russian universities were involved to the research. The results show new ways of delivering knowledge to students as well as improving knowledge management tools and methodology.

The development of information and communications technology (ICT) has a great deal of influence on the information environment. Information tools and methodology are changing rapidly. There are many knowledge communications which can be used during vocational, scientific or ordinary activities. As a rule knowledge sources are classified according to users and subjects. Scientific reviews publish learned papers, which are considered as a source of new knowledge. There is a variety of resources for entertainment, inquiry, business and other purposes.

The blending and even the replacement of one knowledge source by another can be seen everywhere. In general, this shows an increasing access to knowledge. But the assessment of the results of using such an approach cannot be so optimistic because this depends on the quality of the knowledge resource. References to Wikipedia are getting increasingly common in student papers, replacing references to books and scholarly journals.

Nowadays different sources of knowledge compete with a variety of online resources for the attention of the Internet users. Every day, a student using the Internet has a difficult task of determining which online resource should be used for academic work.

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Introduction

It is well known that now we live in the information society. The main value of which is information. All the processes in the information society are connected with information technologies. Communications technology has acquired a specific role in this type of the society. To live in a new global information space means to assess great volumes of knowledge and to satisfy great needs for information.

We live in the world where all information tools and methodologies are changing rapidly. The development of information and communications technology (ICT) influences all aspects of people life. The emerging technologies such as web 2.0 are expanding an access to a variety of knowledge sources.

Many people are members of different Internet societies, such as Facebook, which are used not only for entertaining but also for sharing information. We can see that nowadays students trust not only the knowledge from study guides but also the information from the Internet. References to Wikipedia are getting increasingly

common in students papers, and they are not concerned about the quality of this knowledge resource. Students seem to use the Internet resources more often than books or scientific reviews. Every day a student who is a great Internet user makes a difficult choice- what kind of the web-resource to use and to ask the Internet for help in order to prepare a graduation paper.

The study on knowledge communication in academia was initiated by the Moscow State University of Economics, Statistics and Informatics (MESI). The results of this research are not intended to confirm the facts of the change but to find new ways of delivering knowledge to our students in order to improve education services, particularly e-learning.

The research results will be of a certain interest for the educational community (IES) all over the world and allow designing a new educational model.

The educational aspect of changes in knowledge communication

A core trend of modern society is the rising influence of knowledge in almost every industry. Knowledge communication has been shifting to the Internet, which represents a holistic information environment. The efficiency of knowledge communication influences the democratic and economic development of society [Tikhomirova, N.V, Tikhomirov, V.P., 2012].

Modern society has been called the information society, which is distinguished by the rising role of information and information technologies. The influence of information technology on social and economic developments hard to overestimate.

Different types of information resources – which used to be separate – now are combined into the holistic information environment of the Internet. Professional databases of scientific and business information, electronic libraries, online resources, and electronic publications have become integrated international information resources which are available around the world. The provision of equal facilities for access to the holistic information environment will support economic growth potential.

Access to the holistic information environment is fast becoming a decisive factor for economic and social development as well as civil rights and liberties. The G8 countries have signed the "Okinawa Charter on the Global Information Society" (Okinawa, July 22, 2000), which highlights the necessity of a free flow of information and knowledge as a basis for social development. The charter points to the development of the information society as a development of human resources capable of meeting the demands of the information age through education and lifelong learning.

Access to information resources is particularly useful in cases where people possess information competencies, as this knowledge and skills cannot be provided immediately. Information competence training is caused by trends in the information environment. The main trend in the information environment is the explosion in the volumes of information. The volume of knowledge accumulated by humanity doubles every two to three years according to estimates. At the same time data storage doubles every three days. The increasing flow of information demands from people special knowledge and skills, which are known as information competence.

The most significant achievement of the information society is the increasing opportunities to access and use knowledge. New media and information technologies are becoming an essential part of the student environment. Observations show that students do not distinguish between different sources of knowledge. Thus the search

engine has the same value for students as does the scientific database. In general, this indicates a low level of information competency among modern students. Students do not pay enough attention in selecting knowledge sources, evaluating data, and analysis, and do not care about of the ethics of borrowing content [Urintsov, A.I., 2003].

Students' work with knowledge sources is characterized by a search for ready-made solutions, rather than independent research activity. The lack of a systematic approach by students with regards to information competencies has to be recognized. There are countries developing information competencies in higher education: the USA and the UK.

Increasingly, student papers include references to information sources such as Wikipedia, blogs, forums, etc. This has forced us to pay attention to the preferences of students whose side in solving various types of information tasks – indecipherable.

Knowledge communication is undergoing significant changes in academia. For the university, this is important as it influences learning outcomes. On the one hand there are a number of advantages, including more intensive knowledge sharing between students. Lecturers also have more opportunities to access, follow and support their students' ideas via social networking. However, the disadvantage is that valuable knowledge sources are overshadowed by easy-to-use web-based services [Pavlekovskaya, I.V. 2007].

Information about new knowledge communication tools allows us to design a new way to use it in the learning process. The development of educational materials should be aimed at organizing student research activities.

The psychological aspect of changes in knowledge communication

By the 1960s-70s, it was clear that information technology would play the main role in social development. The onrush of information technology has brought about a revolution in the economic and social spheres, in science, education, culture and in all daily activities.

In the information society the main value is information and information technology (primarily digital). And we can suppose that this society will engender people with a new outlook.

As society develops, the objectives, methods, results of student activities change, which in turn changes the education system and the system of knowledge, skills and abilities. We see an increasing role for self-education and increasing awareness of the importance of practical work at universities.

Modern students are not interested only in gaining knowledge; they want to develop their abilities and competencies. Unfortunately, modern education has chosen to further formalize knowledge, assessing the formal competencies of schoolchildren and university students. In modern society the volume of knowledge looks more attractive than does its value.

 And that is the reason behind the formal approach to knowledge assessment (tests). But formal knowledge does not ensure that students will become successful professionals after graduation.

A real professional must know where to find the information that he or she needs, and how to use it, in order to successfully navigate the issues rather than simply memorizing 20 definitions verbatim. Human memory, unlike animal memory, is mediated. And all possible references, dictionaries, and computer resources should be seen as a kind of blank media, thereby freeing the brain and the human mind to find creative ways to solve problems. In the information age, the volume of information will be important if it is systematized and conceptualized. A

modern student consumes quite a lot of information through a variety of media (TV, radio, Internet, media) and the problem now is not that he does not know something, but that his knowledge is fragmented and sketchy. Students cannot summarize and analyze the material they already know to draw conclusions, they are unable to fully apply their knowledge, and sometimes they are not creatively productive. Training should be based not on "cramming" information, but rather on the ability to think logically. Today, however, "crossword thinking" is being promoted, the main feature of which is following a rigid structure, with no flexibility of thought or space to fantasize. "Crossword knowledge" is not real knowledge, but only the shell of knowledge, scraps of information from different, often random areas of knowledge, that do not add up in any system. The falsehood and livability of the ways mind training as external information and knowledge space rather than internal understanding well described in classical literature, such as in Hermann Hesse's "Glass bead game".

The essence of many pseudo-innovative education programs aim, literally, to give students with new information in a short time. Students are beginning to demonstrate only fragmented, pseudo-scientific formal knowledge, not understanding how and where to apply this knowledge. This is the result of "crossword thinking", which has become the most popular testing method. The main feature of the test is in the variety of prepared answers, with always only one correct answer. Thus, pupils and students are seen as an encyclopedic dictionary or reference. Creativity, and the ability to analyze, is not relevant - mechanical knowledge without reflection is the only important element.

The main requirement for a professional in the modern world is not only to possess specific knowledge, but to be able to understand the problem in a systematic approach. Thanks to information technology, students can explore different aspects of the problem, but in different areas. This gives rise to systematic thought. "The world view" does not comprise the total of images of individual phenomena and objects; it is a holistic picture of the system. And all cognitive hypotheses are based on the world view.

So, modern education should be directed to the formation of the ability to reason, analyze material, and think creatively but critically, adopt unconventional solutions and not simply at using trash terminological research and popular literature.

Another difficulty is the inability to separate reliable and meaningful knowledge from the data stream. There are many ways for modern students to obtain information, but acquiring reliable information is extremely complex and tortuous.

A search engine may spit out a great mass of links, most of which absolutely do not reflect the sense of the search terms.

For example, if we put the word the "whale" into a search engine, first we will get links to various websites of companies, films, and proper names - and only in the middle will we find a reference to the fact that a "whale is a mammal". And this is connecting with what we generally know. The student has to search for information about objects of which he has only a vague awareness. Consequently, modern education should provide skills and competencies, to be able to work with huge amounts of information, and to organize and systematize the information; education should give the opportunity to work with a large amount of information.

Informal professional communication between lecturer and students is an important part of the study process. This kind of communication on the one hand gives students the opportunity to discuss various academic problems and to present their ideas, and on the other hand gives lecturers gives a good creative recharge, allowing them to look at many issues from different perspectives. This kind of communication allows lecturer and

students to feel closer to one another and creates an atmosphere of peer-to-peer collaboration, leading to the abandonment of the traditional model of the relationship between lecturers and students.

A lecturer's main goal does not consist only in delivering knowledge and information. He or she has to engage students in the values of culture, education and human values in general and professional values such as ethical orientations. The lecturer's influence on students is very great, and all lectures should keep this in mind.

Technological progress affects human availability, by making them more "close", more attainable. From a theoretical point of view, this leads to expansion and "erodes" human psychological borders. We can reach anyone at anytime by mobile or Skype or social networks. And it makes people believe in the illusion of control. But it is only illusion, because telling a lie at a distance is much easier than in face-to-face dialogue. The ability to communicate with other people at any time crosses the bounds of privacy. People begin to believe that everybody has to be available by any means of communication at any time. And the inability to contact someone, to send a message, raises a whole range of feelings, from anxiety and bewilderment to outrage. Substitution personal interactions with virtual ones have a negative impact on the relationship between people. Everybody is expected to be available via ICT all the time. But there is no guarantee that the message will be delivered in time, that it will be read, or that we will receive a response. People can regulate their availability to others.

Another problem is the increasing number of potential contacts. In itself this is not critical, but this "dispersion" substitutes for the quality of relationships. For young people, it becomes very important to have many "friends" in social networks, and they are interested in "likes" of their activity on social networks. The quantity of calls and text messages, and the number of "likes", are seen as social recognition.

Professional education is essential for the adaptation of the young man to solve a wide range of modern tasks. Progressive modern education enhances personal development in dealing with life's challenges in a changing modern world. It allows everybody to develop his or her creative potential, which is sorely needed in today's technical world.

New technologies offer new opportunities, changing our world and making it more comfortable. But this convenience and comfort is accompanied by changes in the structure of human motivation and needs, changing thought patterns and life and all this should be taken into account in education development.

Students' views on knowledge communication

This research was conducted to identify changes in knowledge communications amongst students. The student survey was conducted in the spring semester of 2013 among Russian students. The study involved 1,352 students at five universities. There were two universities from Moscow and three from other Russian regions. The study did not reveal any significant difference based on place of study.

In the questionnaire, the students were asked to select and assess the value of the resources to deal with three types of objectives including every day, educational and academic contexts.
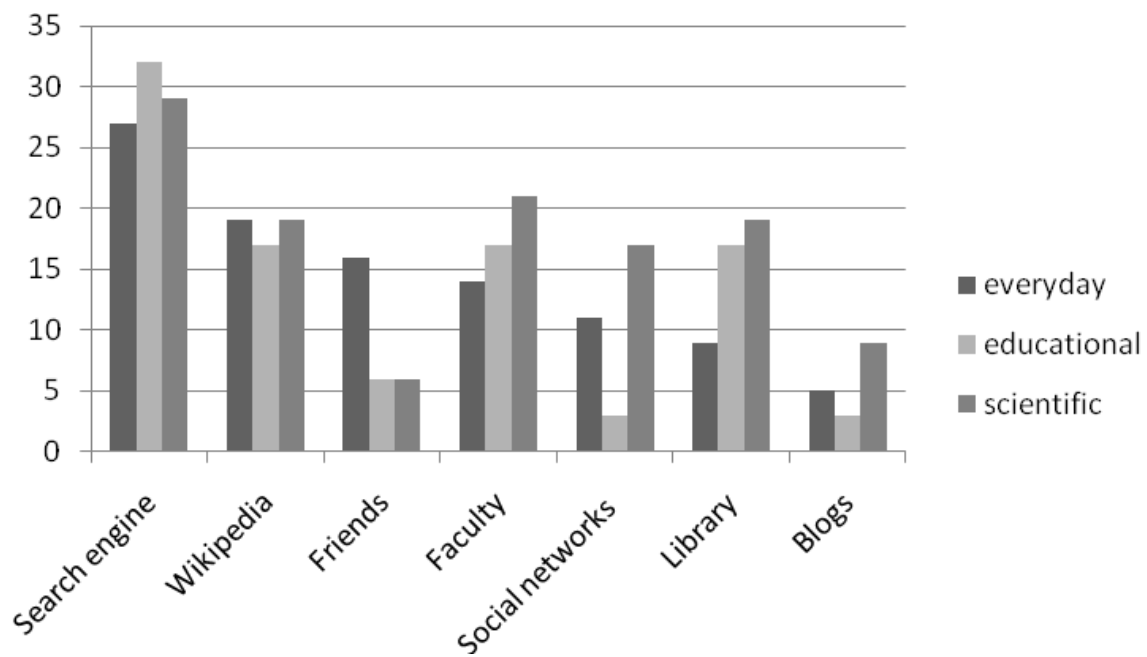
Figure 1. Students appropriate knowledge source for solving every day, educational and scientific tasks %

The results showed that students prefer search engines and Wikipedia. Also we see a dependence on the preferred knowledge source for each type of task. Students are more likely to turn to friends to solve everyday problems, and to the most highly regarded lecturers to address educational and academic matters. We see the same dependence in libraries as a knowledge source.

The second group of questions concerned the evaluation of students' satisfaction with the quality of the information received from relevant sources. Students using certain sources of knowledge are evaluated on their degree of satisfaction.
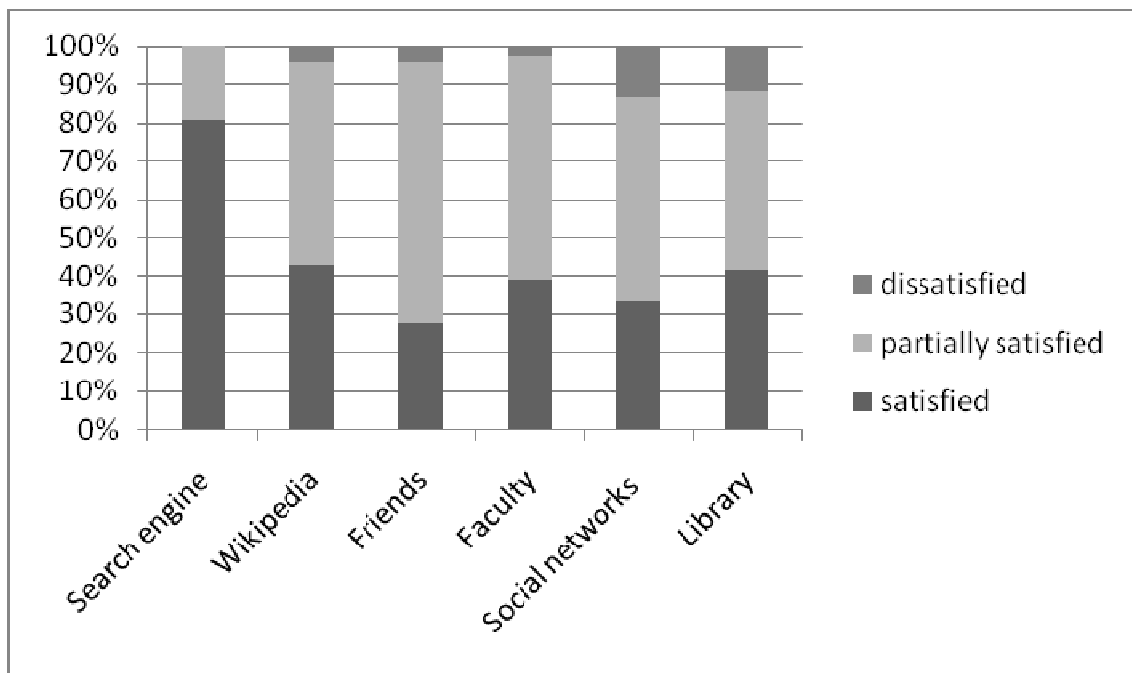

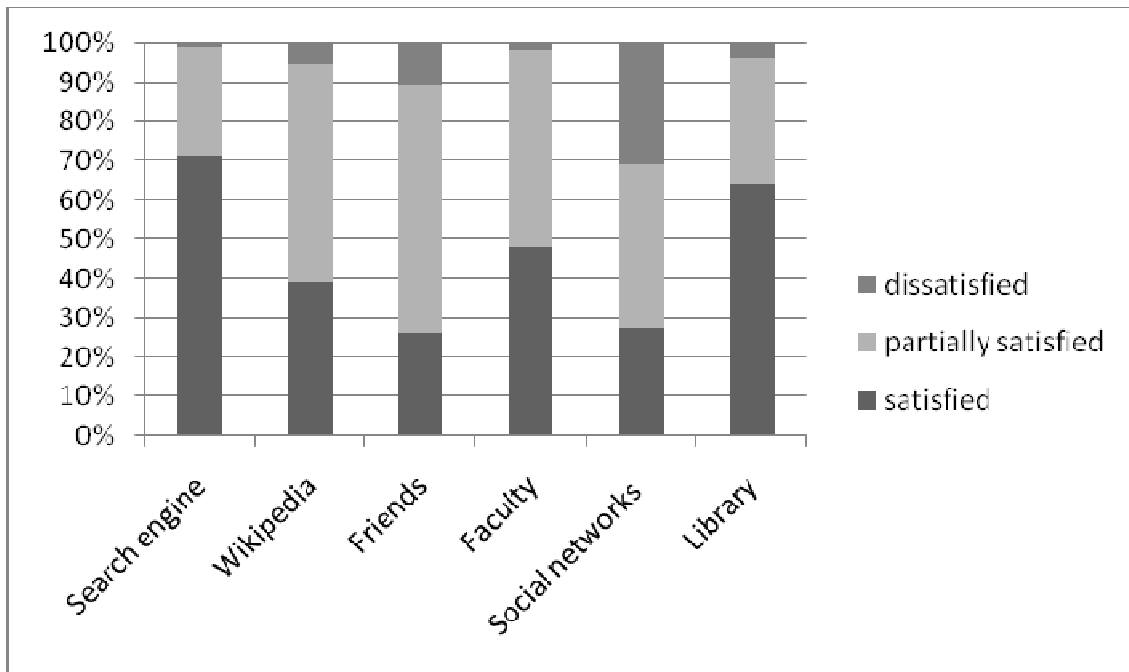**Figure 2**. Distribution of students' satisfaction on knowledge sources for everyday tasks

Figure 3. Distribution of students' satisfaction on knowledge sources for educational and academic tasks

The research allowed us to determine the share of students who do not use certain types of knowledge sources.
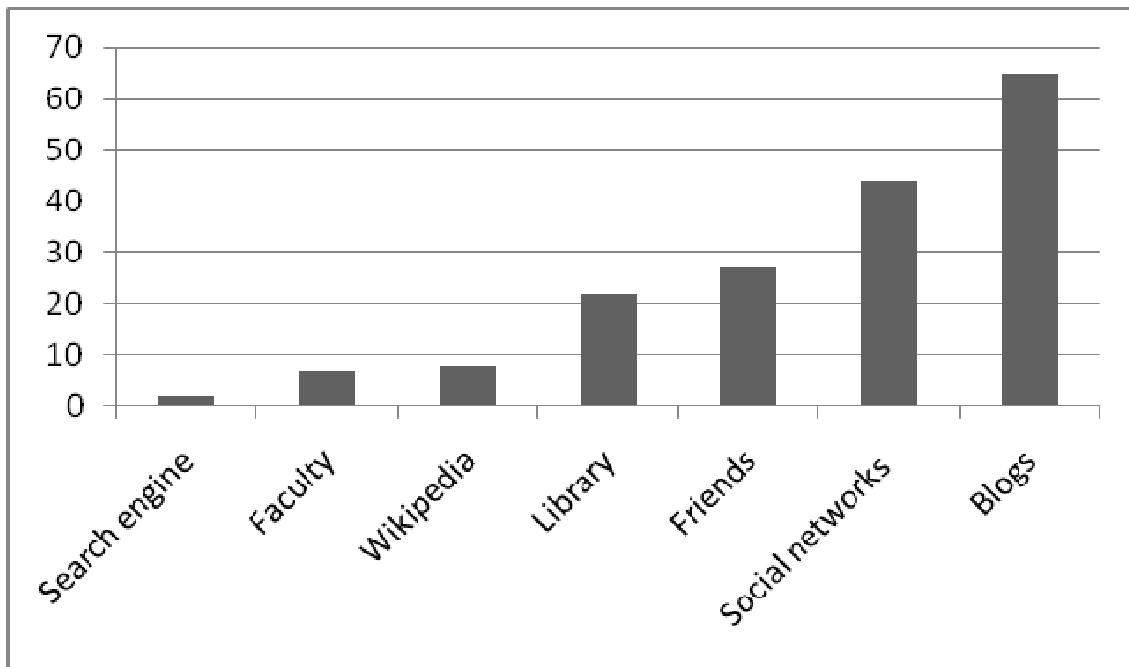

Figure 4. The percentage of students who do not use the knowledge sources for educational and academic tasks

The third group of questions was aimed at identifying ways to support students.
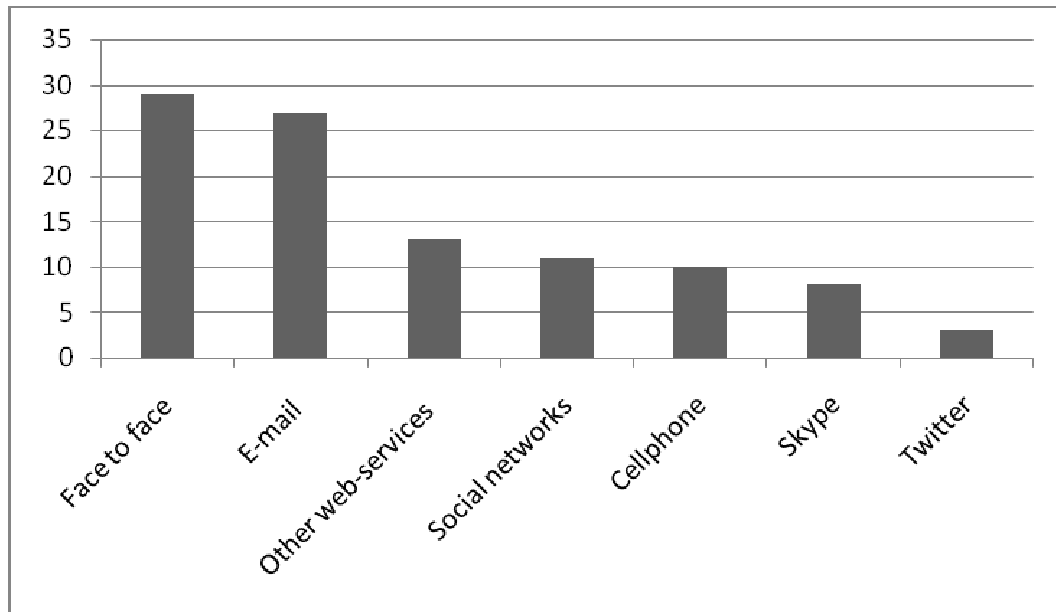

Figure 5. Students give preference to technological means of receiving tutorial support.

Faculty views on knowledge communication

During the research, 327 lecturers were asked to respond to questions about knowledge communication. Most of them (215 lecturers) represented universities from Moscow, with 112 lecturers from other regions of Russia. The main goal of the research was to investigate knowledge communication within the academic environment.

Our respondents were from different departments, with most coming from IT departments (55%). There were 42% from psychology departments. We have chosen these departments as the main areas for our research because they represented two different directions – technology and humanities branches.

We asked our respondents about means of getting references of information. There were no differences between technical and humanities lecturers. And there were no differences between Moscow and other regions of Russia.
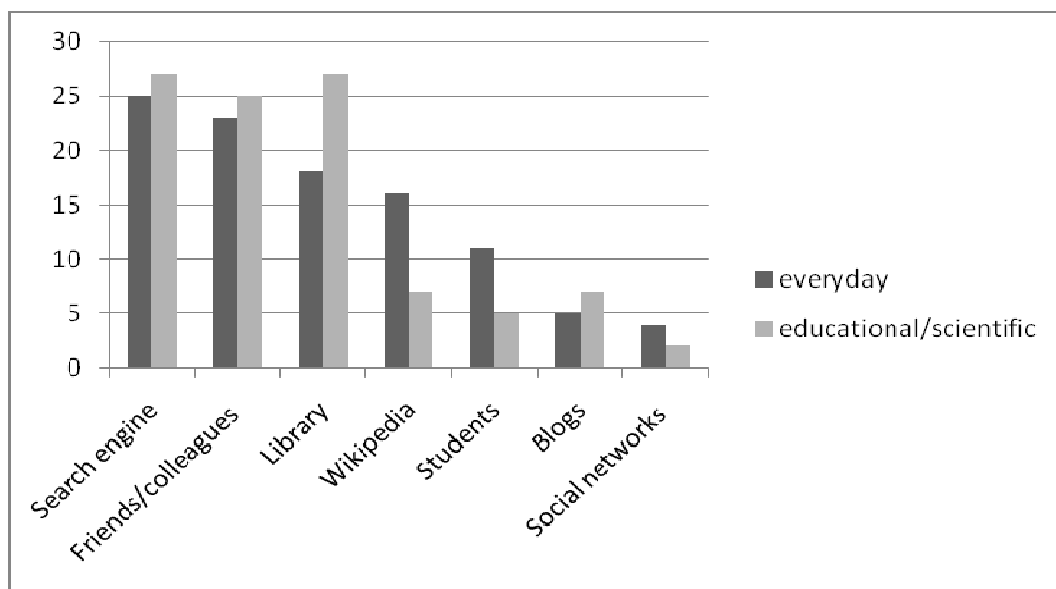

Figure 6. Faculty appropriate knowledge source for solving every day, educational and academic tasks %

We also asked about how they consulted with students. There were differences between Moscow lecturers and regional lecturers.
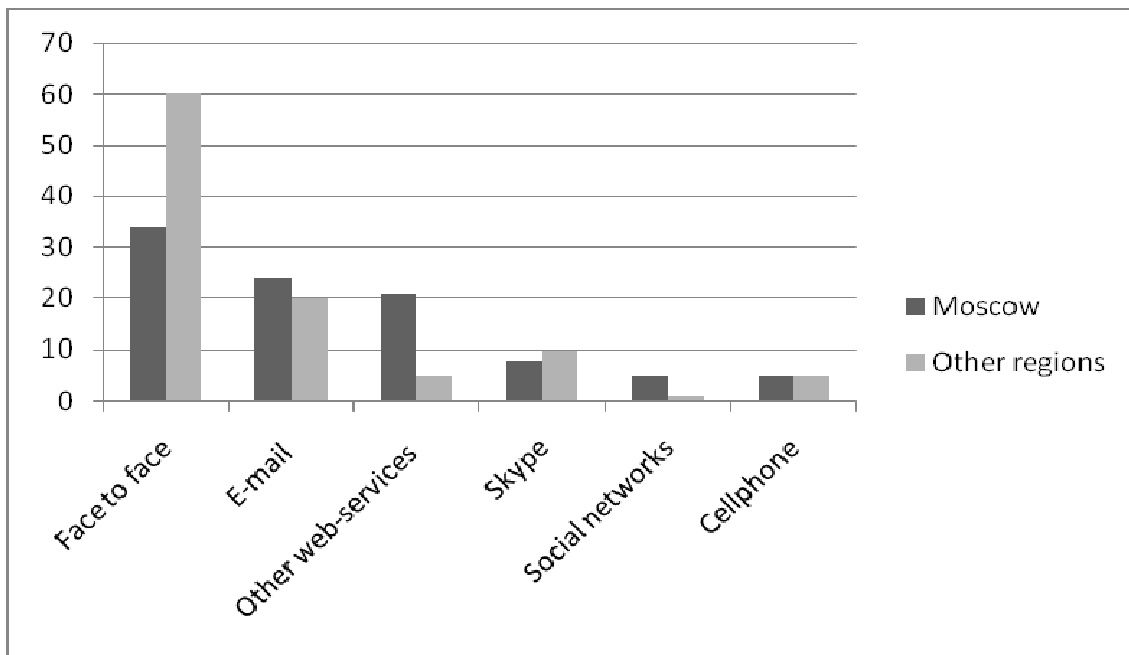

Figure 7. Lecturers give preference to technological means of providing tutorial support to students.

Conclusion

At the present time, it is hard to overestimate the role of information in social and economic development. Information technologies have a significant influence on the modern student. The student has sufficient ICT competencies to allow him to easily handle new devices and online services. A person who possesses ICT competencies can use information resources more effectively for his education and profession. But the results define a new problem in socialization during the educational process.

Face-to-face knowledge communication is being replaced by online resources. However, these resources do not completely satisfy students. There are two ways to overcome this problem. One is improve students' ICT competencies. But they are skilled enough in ICT. The second is to update IT that students prefer (search engines). Meanwhile these technologies are not aimed at educational and academic tasks at all. We see this problem as being neither technological aspect nor educational. This problem is in knowledge communication. Knowledge communication includes the IT opportunities that are popular in our time, but also psychological issues such as face-to-face communication and dialogue between faculty and students.

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