

9th European Conference on e-Learning Volume 2

**Instituto Superior de Engenharia
do Porto, Portugal**

4-5 November 2010



**Edited by
Paula Escudeiro
Instituto Superior de Engenharia do Porto**



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**Proceedings
of the
9th European Conference
on e-Learning**

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Volume Two

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Preface

These Proceedings represent the work of contributors to the 9th European Conference on e-Learning, ECEL 2010, hosted this year by the Instituto Superior de Engenharia do Porto in Portugal. The Conference Chair is Carlos Vaz de Carvalho and the Programme Chair is Paula Escudeiro, both from the Instituto Superior de Engenharia do Porto, Portugal

The conference will be opened with a keynote address by Prof. Juan Carlos Burguillo from the University of Vigo in Spain on the topic of *Using Intelligent Technologies to Support e-Learning*.

As usual the papers range across a very wide spectrum of issues, all of which are pertinent to the successful use of e-Learning applications. It is clear that the role being played by e-Learning in the pedagogical process is considerable and that there is still ample scope for further development in this area.

The range of researchers from different institutions in different countries is impressive. It is clear from the research being done all over the world that the role which e-Learning plays today and may play in the future is truly global. The really important outcome of this global reach is that research and new ideas may easily be shared among both the academic community and those practitioners in other organisations who wish to be informed of the most recent thinking in the field.

With an initial submission of 220 abstracts, after the double blind, peer review process there are 97 papers published in these Conference Proceedings. These papers reflect the truly global nature of research in the area with contributions from Australia, Austria, Belgium, Canada, China, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Greece, Ireland, Italy, Japan, India, Malaysia, New Zealand, Nigeria, Norway, Portugal, Romania, Russia, Saudi Arabia, South Africa, Spain, Sweden, Turkey, United Kingdom, United Arab Emirates and the United States. A selection of the best papers – those agreed by a panel of reviewers and the editor will be published in a conference edition of the EJEL (Electronic Journal of e-Learning www.ejel.org).

I wish you a most interesting conference.

Paula Escudeiro
Programme Chair
November 2010

University Electronic Library for Human Resources Development in Siberia: School Content

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Abstract: Modernization and informatization of education leads to changes in the concept of university electronic library. Today e-library should correspond to the existing trends in education and be the tool of human resources development; e-library today contains regional specific features. It may be used as a tool to oppose demographic decline, complex migrant processes, and the outflow of manpower. The research devoted to the analysis of the trends in human resources development in Krasnoyarsky krai was carried out at the Siberian Federal University in 2009. It included the forecast for the period 2010-2030. Most technological innovations which provide opportunity to retain and develop human resources are being applied within the traditional scheme of in-person interaction, while around 70% of young people, according to sociological research, get information from electronic networks. In this respect the authors of the research pay special attention to the opportunities of electronic libraries. It is a widely-held opinion that the potential of electronic libraries has not been studied sufficiently yet and the understanding of what opportunities electronic libraries may offer is limited. Connecting universities and schools by means of broadband digital data exchange will considerably shorten the time of data transmission for end users - secondary school students, teachers, and parents. Free access to information becomes the most important factor for successful development, sharing innovative experience, scientific cooperation on the regional, national and international level. Working out the social and educational content of the SFU e-library will optimize funding in the social sphere and support most vulnerable categories of people in Krasnoyarsky krai. Developing social services and organizing recruiting agencies within the SFU e-library environment will help attract manpower. Why? The main idea is to use the e-library for human resources development and solving important social problems at Krasnoyarsky krai. A university library becomes not only the scientific but also the social centre. The extended target audience includes university students, teachers, senior classes of secondary schools, parents and other groups of people.

Keywords: e-library, human resources development, educational content, electronic resource, president's library

1. Urgent problems

The article contains the authors' understanding of prospective human resources development. Development and prosperity of the region in future depends upon educational and cultural level of today's secondary school students, upon their patriotic feeling and tolerance. A university e-library should become one of the means of helping society bring up the next generation.

Krasnoyarsky krai is the largest region in Russia. It is a Siberian region situated in the geographical centre of Russia. Social and cultural development of secondary school students, professional development of young people and preservation of human resources will serve economic development in Krasnoyarsky krai.

The possible developmental trajectory of the educational system is described in the foresight research of human resources development at Krasnoyarsky krai till 2030 (Efimov, et al., 2010). After analyzing the results of the foresight research, we came to the conclusion that it is necessary to transfer the focus of communication from traditional face-to-face interaction to interaction in the electronic network environment. In this respect the influence of a university e-library becomes more significant as it is a dynamically developing and regularly updated interactive resource for productive communication.

The existing models of managing human resources employ traditional environment and do not take into consideration the "virtualization" of youth culture (Ovchinnikov, Smolyaninova, 2010). Teenagers spend a lot of their time in social networks. We believe that the main management activities in the field of education, professional growth and retaining human resources of the region should be transferred to the electronic environment.

In this connection, the authors of the research pay special attention to the opportunities of the SFU e-library for the formation and development of human resources of the region and the means of influencing youth culture.

The strategy of the school content of the SFU e-library is connected with extending the target audience. Traditionally the target audience included teachers, students and university staff, now we plan to add secondary school students. This idea implies developing school content of university e-library and extending functions of e-library.

2. Prerequisites for research

Implementation of e-libraries into educational practice of secondary schools has its supporters and opponents. Some Russian scientists take the view that "culture is dying" because of the total digitalization of literary and artistic works. Supporters of e-libraries point out to the advantages, such as prompt access to the actual information. This information includes scientific publications, archive documents, results of scientific experiments and observations, catalogues and various information environments (Efimov et al. 2010). E-library may productively change communication in the educational environment of a "new school" and support cooperation between students and teachers. The urgent problem is making e-library resources available and useful. Today educators and researchers try to answer the following questions:

- How might a university e-library help secondary school students?
- What resources are popular among secondary school students?
- What e-library resources will be used by teachers in their professional activities?
- How can we motivate school teachers to use e-library resources in class and for extracurricular activities?
- How can we motivate students to prepare homework using the materials of a university e-library?
- These are the questions which have no precise, short answers.

Notwithstanding the large-scale work in the field of electronic libraries in Russia and abroad at present time there is practically no system groundwork in using e-libraries for productive cooperation between educational and social regional structures. A group of authors point out the fact that the potential of e-libraries is not studied yet as well as there is no clear understanding of the opportunities an e-library may offer (Anokhin 2006; Aukhdiyeva et al. 2008).

Russian search engine Yandex.ru gives 1900 links to the websites which name themselves e-libraries. These links include internet-shops, electronic catalogues of the traditional libraries, catalogues of network resources, bibliographical databases and resources containing around 50 publications. We have studied the links carefully and found out that around 800 resources (half of those which position themselves as e-libraries) do not exist. And half of e-libraries do not have systematic selection of information.

- We carried out methodological analysis to define which functions are obligatory for e-library:
- Convenient navigation (structure and content)
- Full-text search (especially important for big e-libraries)
- Attributive search (for searching texts and publications in accord with their formal attributes)
- Viewing information, export of information.

Applying these criteria to the remaining 800 websites which position themselves as e-libraries we distinguish only 80 which correspond to these specifications.

Before now in Krasnoyarsky krai there was no technical resource for integrating innovative technologies in the electronic environment of the region. The electronic library of the Siberian Federal University set in operation in 2010 is able to carry out this function. This new educational environment supported by the opportunities of the SFU e-library is able to accumulate innovative ideas and methods of interaction between the subjects of social and educational spheres (Krivonosova 2009).

The contradiction we faced while working at the concept of the electronic library of the University is connected with the fact that in Russia there is no definition of e-library, its functions and content in the context of human resources development. There is no productive cooperation between all the potential participants of network human resources development (Efimov et al. 2010; Aukhdiyeva et al. 2008).

3. Content of the SFU e-library for secondary school students

The authors initiated the project devoted to the concept of the SFU e-library content for secondary school students. The project was supported by Krasnoyarsk Regional Scientific Fund for Scientific and Technical Research Support.

3.1 Research goal and objectives

The goal of the research is working out well-founded scientific concept of social and educational content of SFU e-library corresponding to the modern trends of human resources development at Krasnoyarsky krai.

Research objectives:

- Define teachers' and administrators' needs in educational and methodological electronic resources
- Define the students' and young people's needs in electronic resources
- Define potential needs of target groups in educational and scientific e-resources

3.2 Technologies used to realize the project

The technology of realizing social and educational content of the electronic library imply interaction between the subjects of educational process and the regional society on a new level. Electronic forms of interaction will speed up the process of communication and open access to the social and educational resources to more people than it was possible previously. Our project work includes:

- Working with focus-groups, interviewing experts, realizing questionnaire polls to distinguish problems and prospective areas of development of school and social contents of e-libraries
- Carry out workshops to define weak points and deficits in the social and educational content, and work out agreed positions
- Work out mechanisms of delivering social and educational content of the SFU e-library to the target groups
- Organize social and professional expertise of our project. Publish the results of our work in printed press and in the electronic mass media
- Cooperation with Presidential library.

3.3 Research target groups

158 educational managers and subject teachers, and 140 students from different educational institutions of Krasnoyarsk and Krasnoyarsky krai took part in the research. The research has been carried out in 26 secondary educational institutions in 14 towns and villages of Krasnoyarsky krai. Most of the participants (55%) are from Krasnoyarsk – the capital of our region. The research was carried out in different educational institutions: secondary schools, Grammar schools, lyceums, technical secondary schools, cadet schools, centres of additional education, inter-school methodological centres. Secondary school teachers and administrators working in rural (Novoselovsky, Kezhemsky, Uzhur, Boguchany and Achinsk areas) and small towns (Zheleznogorsk, Lesosibirsk, Kodinsk) areas were also involved in the research.

Focus groups and questionnaire polls for teachers and students were carried out in educational institutions and in summer schools where we could meet children from different areas of Krasnoyarsky krai. Thus we may conclude that we selected participants of the research according to the following criteria:

- Geographical position
- Type of educational institution
- Locality (cities, towns and villages)
- Field of activity in the educational institution (for pedagogues)

It should be mentioned that most active teachers and administrators were invited to take part in the research. Most of the participants are women (92%) over 40 years (Figure 1). This reflects the actual

situation in Russian secondary schools where most teachers are middle-aged females. Age group from 20 to 30 years is comparatively small.

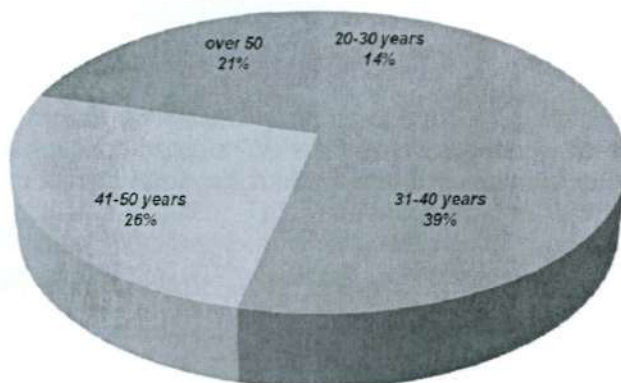


Figure 1: Age groups of the research participants

71% of respondents are teachers, 16% are managers, 12% are both managers and teachers and 1% are librarians working in the system of secondary education (Figure 2).

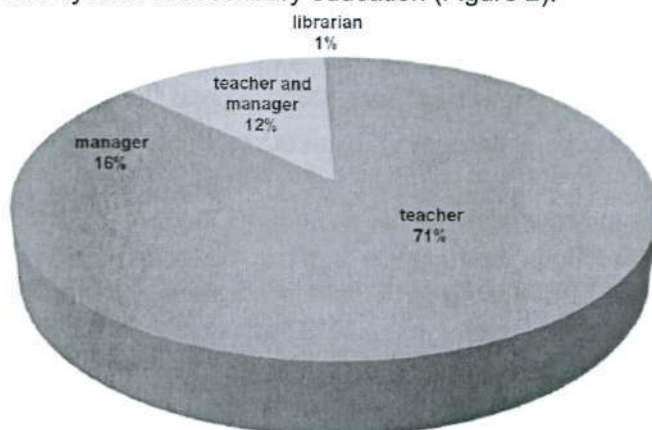


Figure 2: Secondary school teachers and administrators

Secondary school students are representatives of the same educational institutions as teachers and administrators. 61% of male students and 39% of female students took part in the research. The research revealed that 53% of students actively use Internet. Among 140 participants only 23% spend in the Internet less than 1 hour per day or do not have access in the Internet.

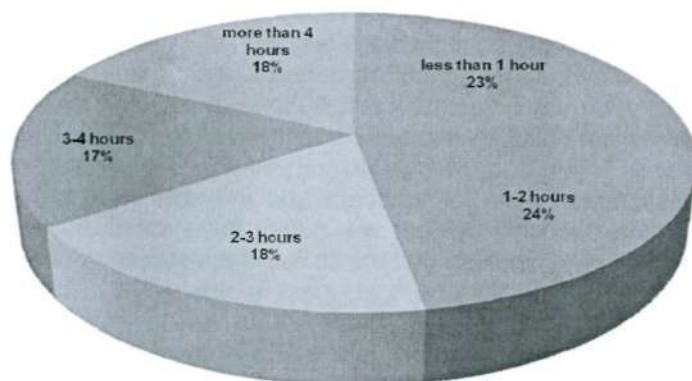


Figure 3: Time the participants spend in the Internet (hours/day)

3.4 Most popular Internet resources

We asked students what websites they visit often (Figure 4).

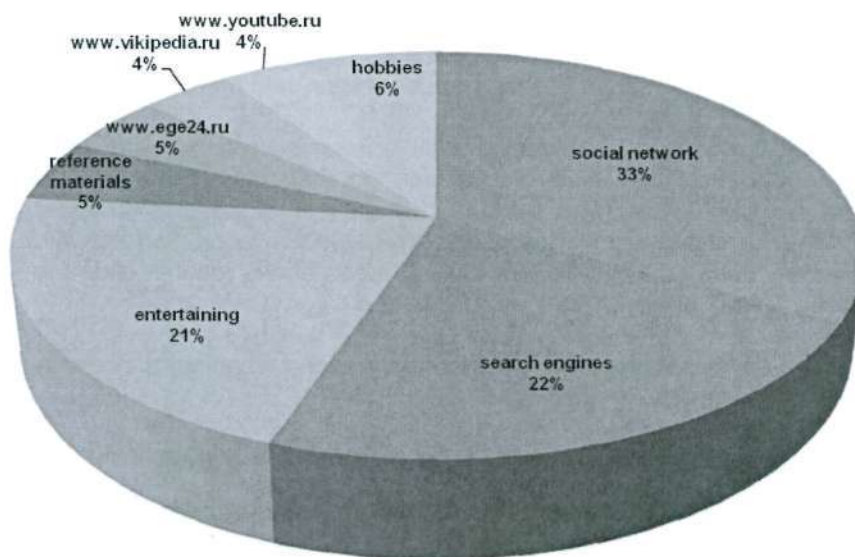


Figure 4: Internet resources popular among secondary school students

The leader is the social network "V kontakte" - more than 40%, often the students mentioned search engines (www.mail.ru, www.yandex.ru, www.google.ru) - 20% of respondents, other social networks, website www.ege24.ru devoted to state examinations, www.wikipedia.ru, www.youtube.ru. Websites offering entertainment (games, music, e-books, fan-clubs, sports, hobbies, etc.) are also very popular. Most popular among pedagogues are network resources such as "Open class", "Internet State of Teachers", "Creative Teachers' Network", etc. Electronic encyclopaedia (www.wikipedia.ru) was mentioned by 13% of pedagogues; 12% mentioned website of the Federal Institute of Pedagogical Research (www.fipi.ru). Very popular among teachers of rural schools are the websites of United collection of educational resources, publishing house "Pervoe sentyabrya" and website of the Ministry of Education of RF and Krasnoyarsky krai (Figure 5). E-libraries were not mentioned among most popular and asked-for Internet resources. Students use email and network communication. They also say that they use Internet to download music, new films, games, digital cribs for mobile phones, to get prepared for examinations, to do homework. Most popular Internet resources are devoted to Geography, History, English and Social study.

Pedagogues evaluate experience of using IT resources at school as positive and successful. Among difficulties teachers and educational managers indicate technical problems. Many schools have experience in involving teachers and students in participation in distant courses, Olympiads and Internet-testing.

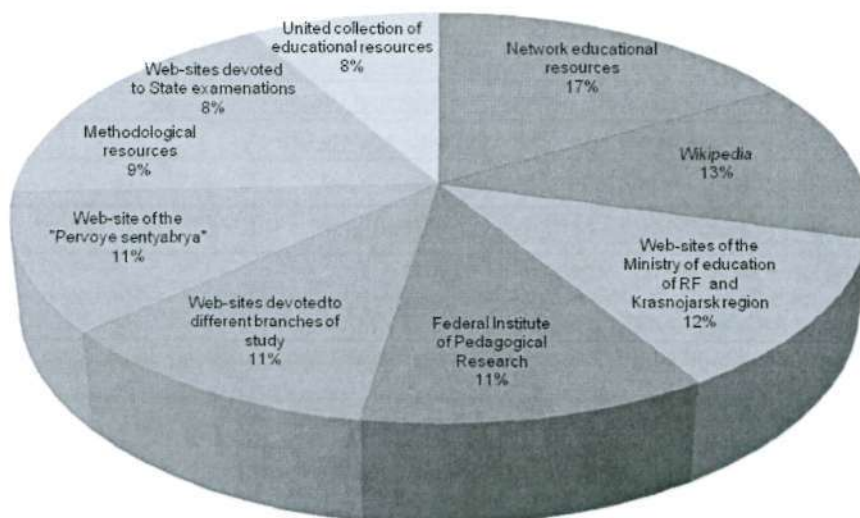


Figure 5: Websites popular among pedagogues

50% of the respondents are registered users of social networks. Among most frequently used social networks are "V kontakte", "My world", "Classmates". Email addresses have 50% of the respondents; probably it is connected with the fact that some websites require email for registration. Internet is used at home and at school; people share their Internet connection with friends and relatives.

Pedagogues can be divided into two equal groups concerning recommendations they give to their students about Internet resources. Some of them address the students to Internet resources to retain students' interest in the subject they teach. Other educators consider Internet harmful for the educational system. Educational encyclopaedia "Wikipedia" is recommended by 50% of teachers, YouTube is not widely used among teachers of rural areas and is recommended to students by only 3% of teachers (see Table1 below).

All the participants of the focus groups admit that information technologies became indivisible part of the modern educational process.

3.5 What do educators and students expect from SFU e-library

The results of questionnaire polls and interviews lead to the conclusion that the participants of the research have no profound knowledge in e-library opportunities. No one of the respondents uses e-libraries in his professional activity or for educational purposes. Nevertheless all the participants have adequate understanding of electronic library. They underline that e-library should contain materials of different format (audio, video, etc.) and different areas of knowledge. Educators consider that students use published in the Internet critical reviews of the literary works to avoid reading, while those teachers who use e-libraries are mostly interested in feature films and theatrical performances to use them at the lessons.

Internet resources described in questionnaire polls as necessary part of the SFU e-library content correspond to the answers received during interviews. The participants are mostly interested in methodological materials, modern scientific research works, and resources for additional education corresponding to the modern standards.

Questions about the resources that should be included in the SFU e-library content gives us understanding of the respondents' preferences. Teachers and administrators enumerate multimedia, scientific, reference materials; students name digital cribs, additional courses and communication with teachers.

Table 1: Rating of websites used by teachers

Websites	Rating	
Educational Networks	www.openclass.ru —Open class (17)	47
	www.intergu.ru — State Exams (10)	
	www.it-n.ru/ —Creative Teachers' Network (6)	
	www.eltarea.ru —Network of English teachers (4)	
	www.internika.org —Open Pedagogical Union (2)	
	www.pedsovet.su — E.Pashkova's society (2)	
www.ru.wikipedia.org/ — encyclopaedia "Wikipedia"	36	
www.fipi.ru — Federal Institute of Pedagogical Research	32	
www.krao.ru — education of Krasnoyarsk region, www.krasobr.admkrsk.ru — Krasnoyarsk education, http://mon.gov.ru/ — Ministry of Education of RF, etc.	34	
Websites devoted to different subjects (Physics, Mathematics, Ecology, Geography, Chemistry, etc.)	31	
www.1september.ru/ — Publishing house "Pervoye sentyabrya"	31	
www.school-collection.edu.ru — Collection of educational resources	24	
www.ege.edu.ru , www.ege24.ru , www.alexlarin.narod.ru — devoted to United State Examinations	24	
www.metod-kopilka.ru , www.metodkopilka.com - Methodological resources	20	

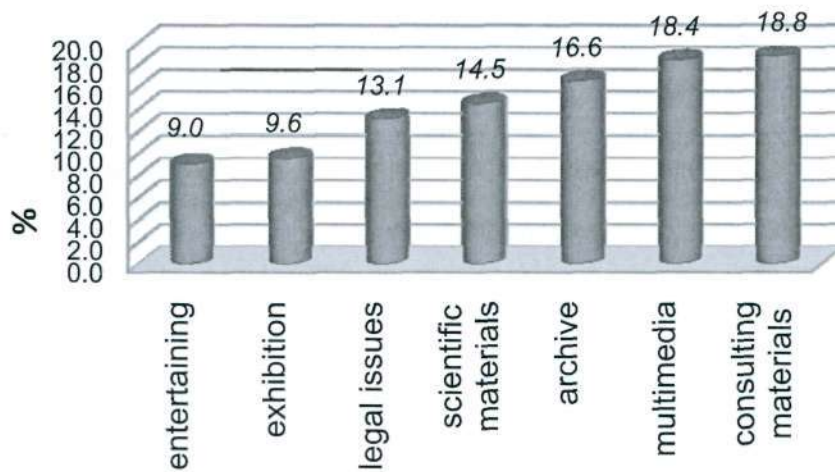


Figure 6: What do pedagogues expect from the SFU e-library content

School content of the SFU e-library should contain additional information about the subjects studied at school, problems and questions similar to those given at Olympiads, United State Examination tests with commentaries, materials helping students to get prepared for entering a university, electronic textbooks.

Expectations of secondary school students are represented in Figure 7.

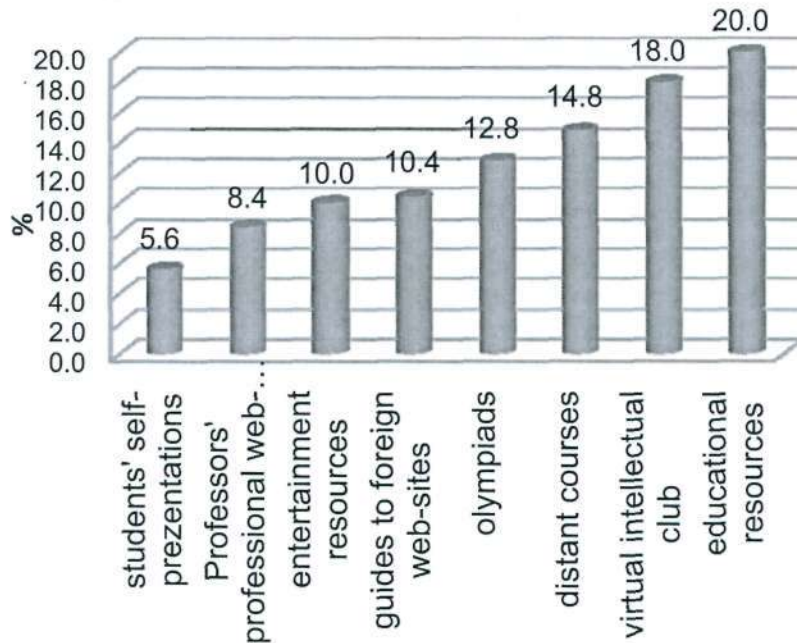


Figure 7: What materials do secondary school students expect from the SFU e-library

4. Conclusion

Participants of the research underlined the importance the following activities:

- Developing digital educational resources and software for educational purposes (teaching Russian, Literature, English, German, Mathematics, History, Social Study, Economics, Law, Geography, Biology, Physics, Chemistry, and World Literature).
- Developing materials for additional education by means of communicative environment of SFU e-library for teachers and other specialists necessary for teaching by means of ICT and e-library. Working out methodological ground to support teachers, professors and other specialists.

Olga Smolyaninova and Vladimir Ovchinnikov

- Developing instructions, information materials and structural scheme. Filling in this scheme will result in analyzing the background for making a choice, self-evaluation of progress and organization of independent work. Student's e-portfolio helps in registering achievements and planning of pre-professional training.
- Developing annotated, catalogued and structured framework programs of pre-professional and professional courses, methodological recommendations for teachers and digital educational resources. Digital educational resources, according to most respondents' opinion, are the means of increasing effectiveness of professional training.
- Using within the SFU e-library such resources as audio, video and flash and underline the necessity to extend communication opportunities for the participants of the educational process at Krasnoyarsky krai.
- Overcoming the weak points of the existing structured, catalogued, annotated information and methodological materials (digital learning materials, special programs).
- Lack of unified criteria toward digital educational resources and unified requirements toward teachers.

All the representatives of the pedagogical society acknowledge the necessity of the SFU e-library and the importance of working out school content for teachers and students. Most of the respondents understand educational content of the SFU e-library as interactive resource, resource of scientific and methodological character.

Free and quick access of secondary school students and teachers to the electronic resources of the SFU e-library will help in organizing virtual classes and extending innovative pedagogical experience. It will be ground for scientific cooperation on the regional, inter-departmental, national and international level.

Cooperation with Presidential library will help to strengthen young people's patriotic feelings and give the opportunity to study rare books which belong to historical and cultural wealth of Russia.

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