

Proceedings of the ITI 2011
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Edited by
Vesna Luzar-Stiffler, Iva Jarec, Zoran Bekic



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ePortfolio in Higher Educational Institutions of Russia

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Abstract. *ePortfolio in professional pedagogical community is usually understood as the means of recording, storing and assessment of personal achievements. The system of higher education in Russia is being updated in accord with the new educational standards and competences. Transition to competency approach needs a new assessment tool. ePortfolio method may be successfully used together with the other alternative and traditional methods. The article gives detailed analysis of using ePortfolio technology in the academic process at the Institute of Education, Psychology and Sociology (IEPS), Siberian Federal University (SFU) and the resources of this method for teachers' assessment.*

Keywords. ePortfolio, assessment system, competence approach, educational achievements, professional achievements.

1. Introduction

The experience of using ePortfolio in Russia has a comparatively short history; it may be regarded as piloting the authentic assessment technology within the existing conservative system of inflexible educational standards. At the Siberian Federal University the assessment based on ePortfolio technology has a systematic character for Bachelor/Master program students specializing in Education. For creating and developing individual teachers' and administrator's ePortfolios IEPS uses original information system; the user may log in the system from any computer having access to the Internet.

This work describes part of the opportunities offered by our corporate information system. The concept of ePortfolio technology is aimed at presenting our students' educational achievements and their objective assessment.

Among the key principles of the corporate information system we distinguish the three which are closely connected with presenting and assessing students' educational achievements.

- 1) The principle of the united database. All the data should be linked to each other. It is important when new user modules and functions are developed and integrated. This principle presupposes that all the data within the database is input only once; there is no data duplication. The students may update their works, introduce changes and corrections after receiving feedback from teachers. The teachers working with Bachelor and Master program students have the opportunity to study their works in other subjects delivered by their colleagues. The students have access to their own works and to the best examples of works among their co-students. This enables cooperation between students and teachers.
- 2) Web 2.0 principle or the principle of the social network. The users should have the opportunity to manage the content of the information system (to more or less wide extent in accordance with their level) taking into consideration not only the regulations but their own likes and dislikes. In other words the users should have the opportunity to upload the files in the system (news, photos), exchange messages, share opinions and ideas; and not only fill in and print out the necessary forms and carry out the prescribed work. The experience of using social networks show (e.g. Facebook) that such opportunities are best motivating for working with the system and it supports automatic growth of users and their activity. Such

information system becomes the center of corporate cultural life, the tool and the means for its formation and development.

- 3) In the University competition of websites the site of our Institute took the 2nd place among 17 university subdivisions; and the 1st place among institutes regarding multimedia content and webcounting.

2. Implementing ePortfolio at the Siberian Federal University

We started our work at ePortfolio in 2008 with the support we got from the administration of the Siberian Federal University.

2.1 The first steps

Within our first year of the research experiment we developed the organizational and methodological model for implementing ePortfolio in the academic practice; worked out the detailed descriptions of ePortfolio structure for Bachelor and Master program students; and the schemes for organizing the reflection process.

We involved Bachelor program students in discussing ePortfolio structure for different educational purposes. We carried out projecting research work to understand whether the students are ready to use ePortfolio in the process of study, discussed the advantages of ePortfolio and the possible risks. The structure of the undergraduate students' ePortfolio was coordinated with the students – participants of the experiment [3,4].

2.2. Postgraduates' ePortfolio

In 2009 we started implementing ePortfolio in the teachers' assessment system. The work was carried out on the basis of Institute of Education and Psychology, SFU and Krasnoyarsk State Medical University. This work was supported by the grant "E-portfolio as a means to improve the teacher assessment scheme at the Institute of Education, Psychology and Sociology of Siberian Federal University" we received from International Research and Exchange Board.

The goals of the project were finding out undergraduates' and postgraduates' attitude

toward using ePortfolio for organizing educational activity and reflexive evaluation of personal achievements, possible risks and problems connected with implementing the technology.

Project objectives:

- 1) define ways of implementing ePortfolio in the academic process, percentage of those who really use this technology and their attitude to implementing it into educational practice;
- 2) define the structure of undergraduate and postgraduate students' ePortfolio;
- 3) define most significant sections of ePortfolio from the point of view of the target audience;
- 4) define main prospective ways of using ePortfolio in the academic process from the point of view of undergraduate and postgraduate students;
- 5) investigate how ePortfolio may serve to improve Masters' assessment system;
- 6) define main obstacles and prospects for using ePortfolio from the point of view of the target groups;
- 7) identify possible discrepancies in the positions of the target groups.

We defined the target groups and prepared 2 questionnaires, 19 questions each (open and close). The Masters' opinion was important for expert evaluation of changes in the quality of education, content and the form of educational activity based on ePortfolio. Statistical analysis was carried out by means of StatSoft 2006. Quality characteristics were evaluated as percents. For comparing qualitative characteristics in independent sampling Fisher criterion was applied. Differences were statistically significant at $P \leq 0.05$.

The prospects of ePortfolio for Masters' professional development and career development were discussed with university teachers, Masters of Education, representatives from administration of different Krasnoyarsk universities. We organized projecting workshops and discussions on IEPS website, carried out sociological research concerning implementing of ePortfolio into scientific and educational practice [2,5].

3. Questionnaires, interviews and discussions

The experimental data for the analysis was collected by means of Statistica for Windows 7.0 (StatSoft, 2006). Fisher criteria was used to analyze qualitative indicators in the random sampling (qualitative indicators were estimated as percentages). The difference was considered statistically significant at $P \leq 0,05$.

3.1. What do undergraduate and postgraduate students know about ePortfolio

Total number of the respondents is 133. It includes all the Master program students of the 2nd year (21), Bachelor program students (47) and Specialist program students (21). Number of teachers in the Department staff list – 60 people, 44 of them took part in questionnaire poll. We summed up the results of our work and got the two main groups: undergraduate students (Bachelor and Specialist program students) and postgraduate students (postgraduate Students plus teaching staff).

Most respondents were aware of ePortfolio technology (86%). Though the questionnaire revealed that 20% of them have only vague idea of the topic and only 66% responded “Yes” with confidence. It should be also taken into consideration that 60% of respondents got acquainted with ePortfolio technology in 2008 at the beginning of the experiment; and only 1% of respondents had been acquainted with ePortfolio for 5 years.

We may conclude that ePortfolio is known in Russian higher education though it is early to speak about all-round awareness and deep understanding of ePortfolio resources. The main source of information about ePortfolio is teacher for 49% of respondents. The questionnaire revealed that implementing ePortfolio by means of a course taught at the university is the most preferable for both undergraduate and postgraduate groups (43% of respondents).

3.2. Undergraduate and postgraduate students’ expectations

Most respondents think that ePortfolio will be effective for solving the three categories of tasks: presenting achievements, assessment of personal achievements and reflecting

professional educational activity. This is presented in Figure 1.

Postgraduates	%	Undergraduates	%
Presenting achievements	62	Assessment of personal achievements	59
Reflection of educational and professional activity	57	Presenting achievements	51
Assessment of personal achievements	38	Assessing educational results	34

Figure 1. What is ePortfolio effective for

Analysis of the respondents’ replies revealed significant difference between Master and Bachelor students’ opinions. Bachelor program students prefer Assessing individual achievements (1,65 times more important than for Master program students, $P = 0,0368$). Master program students in their turn prefer Presenting achievements (1,9 times more important than for Bachelor program students, $P = 0,0216$). This data is indicative of the shift in the priorities. External assessment is important for Bachelor program students; while for Master program students is more important the opportunity to present themselves in the professional community, self-identification of their personal pedagogical position in the academic information environment.

After a year of work aimed at implementing ePortfolio and the discussions we held we conclude that the percentage of implementing is 81% - 89%. Today the SFU website contains about 100 portfolios of undergraduate students and 50 portfolios of postgraduates. Bachelor and Master academic programs include a course devoted to ePortfolio. Working out ePortfolio was obligatory for Bachelors and Masters of the 2nd year of study for obtaining a credit in several academic IT disciplines.

3.3. Postgraduate’s position towards ePortfolio

After undergraduate student’s ePortfolio was implemented in the curriculum the students began expressing their wish to see Master program students’ and teachers’ ePortfolios to

know more about their professional experience and some personal information.

The number of postgraduate students and teachers presenting their ePortfolios in the university intranet has grown significantly – up to 30%.

3.4. Type of implementing ePortfolio

We would like to draw attention to the fact that for undergraduate students mastering ePortfolio technology was compulsory; for postgraduate students and teachers we did not use such administrative resource. Postgraduates are a more conservative group concerning implementing ePortfolio.

For postgraduate students ePortfolio is the tool to present their scientific projects, it is used for developing partner relations and creating the united university educational environment.

The both groups prefer decentralized method of implementing ePortfolio.

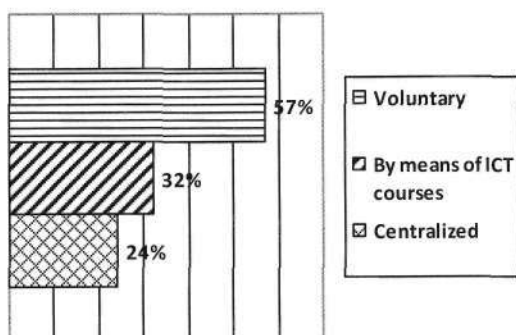


Figure 2. How ePortfolio should be implemented

Notwithstanding the fact that most of the respondents consider that ePortfolio technology should be implemented on voluntary basis one-fourth of them consider that ePortfolio should be introduced as obligatory for all by means of administrative resource. Opinions of the students whether implementing ePortfolio technology should be voluntary or centralized differ significantly: Master program students vote for centralized implementing of ePortfolio; while Bachelor program students prefer implementing on voluntary basis: $P=0,0397$.

The experience of several higher educational institutions which implemented ePortfolio for assessing students' and teachers' activity [4,5] show that at the initial stage of implementing the administrative resource was used. But when the

results of the assessment became visible in the form of financial incentives for teachers and students all the students and teachers fill in their personal pages on their own free will.

The amount of ePortfolios at IEPS web-site increased from 24 till 68 within one year, the amount of Master program students' portfolios increased twice. Two years ago we introduced an annual competition of the students' ePortfolios. The winner is awarded a bonus; results of the competition are published on the Institute web-site.

4. Risks, problems and prospects of using ePortfolio

4.3. Risks of using ePortfolio

Among the risks of using ePortfolio in the educational university environment the undergraduate respondents name

- Plagiarism and the opportunity of manipulation (50%)
- High labor intensiveness for students (43%)
- Breach of confidentiality (36%)
- Low ICT competency level (32%).

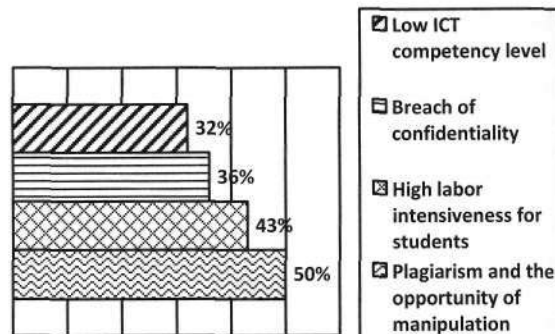


Figure 3. Risk of using ePortfolio

While analyzing the results of the questionnaire poll we came to the conclusion that the most significant risk within implementing ePortfolio technology is connected with Breach of confidentiality ($P=0,0468$). This is also connected with another problem – Reluctance to share personal information ($P=0,0354$) (Fig.4.). Thus ePortfolio developers face an important and contradictory tasks. The first task is selection of the artifacts to be included in the ePortfolio: the artifacts should not break personal confidentiality but reveal personal achievements and personal attitude toward these achievements

as ePortfolio is presented to the professional community [2].

Universal character of ePortfolio technology for assessing students' and teachers' activity needs unified principles of selecting information for all the specialties; this is a task which is difficult to perform as personal likes and dislikes of all the authors differ a lot.

4.2. Problems of using ePortfolio

Problems and risks which enumerate the postgraduates are:

- Lack of students' interest in case ePortfolio does not influence the mark (59%)
- Reluctance to share personal information, risk of breaching personal confidentiality (45%)
- Lack of students' interest in case ePortfolio does not influence the mark (39%).

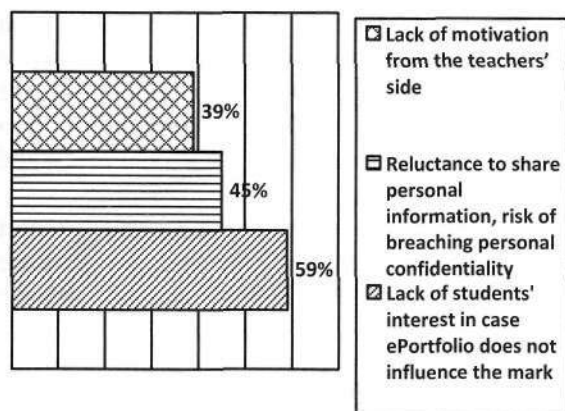


Figure 4. Problems of using ePortfolio

To avoid plagiarism several possible variants can be offered. First, personal responsibility of the author for the information he publishes in his ePortfolio. It may be reached by means of the authors' electronic signature, or by means of publishing the documents, confirming the origin of the artifacts.

First, to avoid manipulation and secure confidentiality the authors of ePortfolio should decide what sections are open to public and to what sections access is limited and to what groups of people. Second, open and democratic character of ePortfolio assessment procedure does not allow any administrative pressure toward the author both from the side of professional community or from the university administration.

4.3. Prospects of using ePortfolio

Notwithstanding the described risks and problems both undergraduate and postgraduate students regard ePortfolio as prospective method.

Summing up the received data we may draw the following figure:

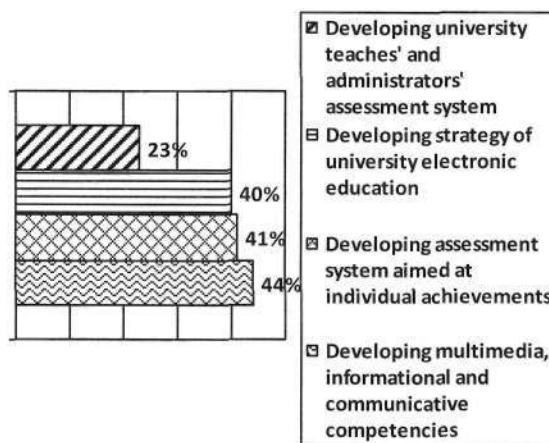


Figure 5. Prospect of using ePortfolio

Among the possible trajectories of using ePortfolio method the respondents distinguish the three factors which are most significant - 95% ($P=0,0523$). These are Developing multimedia competencies, Development of the assessment system aimed at individual achievements and individual progress and Development of the University e-learning strategy. Our opinion coincides with the experts' thought that "teacher education programs do not adequately prepare future teachers in terms of technology competencies" [1]. In Russian education much is being told about the necessity of using information technology. In real practice teacher training programs include 2-3 basic courses in IT while it is necessary to use IT within training students in different disciplines. ePortfolio technology allows introducing IT into the courses which have no close connection with information technology; helps to publish learning materials in the Internet and develop information competency which is very important for teachers in future. Developing assessment system by means of ePortfolio technology also helps to extend IT competency of academic teachers and administrators. Thus ePortfolio technology motivates university administration to working out and developing university e-learning strategy; creating socially significant virtual

educational environment; and professional development.

During the final discussion with Master program students (before the defending of Master's theses took place) we got to know an important factor about ePortfolio. The most significant for postgraduates ePortfolio function is presenting graduates' achievements to the prospective employees. The importance of this opportunity underlined 98% of the respondents, pointing out the necessity to lay the stress of all the presented in ePortfolio works on the career development purposes: presenting most prominent competencies, projects, results of pedagogical practical work, organizational skills to the prospective employee. At the present moment the university archive contains 18 portfolios of Master program graduates (year 2010). 6 graduates work in the system of higher education management – this sphere now is closely connected with information technology. The feedbacks we get from the employees allow us to conclude that our Master program graduates have high social and information competencies. This fact proves the importance of using ePortfolio technology in training Masters of Education from the point of view of developing technical, social and information technology competencies.

5. Conclusions

Undergraduate and postgraduate students are positive concerning the following functions ePortfolio may be used for:

- Storing artifacts demonstrating individual achievements in an electronic format, it serves to make objective picture of scientific and pedagogical achievements
- Increasing objectivity of assessment – ePortfolio increases the number of people taking part in assessment (colleagues, students, etc.)
- ePortfolio helps to make teachers' assessment more open.

Among the advantages of ePortfolio has for professional development we may mark out the following:

- Reflecting pedagogical difficulties and achievements
- Developing multimedia competencies of undergraduate and postgraduate students

- Correcting academic programs on the basis of individual reflexive data from ePortfolio
- Self-presentation in the professional community by means of Internet-technologies

The main discrepancy which revealed our investigation is as follows: postgraduate students regard ePortfolio as the tool for development and self-presentation in the professional community OUTSIDE the university. It is also the opportunity to get adequate financial stimulus - financial reward as the result of their professional activity. Undergraduate students understand ePortfolio technology as the tool of adequate assessment, the tool for presenting themselves INSIDE university, and the tool for reflexive work.

Students' ePortfolios may be used by teachers for reflexive analysis of educational programs and for introducing necessary changes in the academic process. Singling out difficulties and problem zones which can be seen in the students' artifacts presented in ePortfolio in "Achievements" and "Reflection" it is possible to find the deficits of the program and make changes in the content or structure taking into consideration the students' educational needs and basic competencies.

It is extremely important to present a report on educational undergraduate and postgraduate students' activity, including analysis of the presented educational results. To provide objectivity of assessment each characteristic should have a rating calculated in points [5].

6. Acknowledgements

We would like to thank the administration of the Siberian Federal University and Krasnoyarsk Scientific Fund for supporting our work.

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