

Didactic Potential of Web Portfolio: Theory and Practice

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Abstract

The urgency of the research is determined by the new stage of the digital environment, the rapid development of web tools, the improvement of the technical capabilities of telecommunications, software and hardware solutions for the effective self-presentation of the student's work and, consequently, the need to conduct research in the field of pedagogical theory and practice, search for new approaches to objective assessment of their personal and educational achievements, interests, preferences, problem areas, as well as increasing the effective use of web technologies to build a table of the graduates' competencies for self-promotion, and job search. The scientific problem of the research is the inadequacy of the potential for the implementation of a person-centered, competence-based approach in the educational process of the university due to the creation and maintenance of a web portfolio of students, on the one hand, and an insufficient level of organizational and methodological support, on the other. The scientific toolkit, the basis of the research is an integrated approach to organizing the study of the theory and practice of using the digital portfolio in domestic and foreign education systems. An integrated approach ensures the objectivity of studying problems using the methodology of such sciences as pedagogy, psychology, sociology and computer science. The use of convenient and easily customizable web services for building a portfolio helps in fixing "digital" tracks, shaping the student's and student's personal Internet space, provides the opportunity to enter various educational and professional communities to present the completed work, exchange information, present successful work, success. and achievements. The main task of using the portfolio in the educational process is solved - it is the diagnosis of the formation of creative ability, professionally important competences of the future specialist, collection, systematization of results in all activities and representation of the graduate in the most advantageous light to employers.

Keywords: web-portfolio, pedagogy, portfolio, student, teacher, employment, competence, didactic potential

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1 Task

The modern dynamics of the development of web technologies, social networks clearly demonstrates the need of society for communication, self-representation, self-realization. The use of convenient and easily customizable web services for building a portfolio ensures the collection of “digital traces”, the accuracy of the presented educational information, works, projects, successes and achievements.

The study of the didactic potential of the web portfolio began in 2013 during the implementation of the RHF grant “Organizational and methodological support for the creation and maintenance of an electronic portfolio of students and teachers in social networks” (13-06-00481). The project has developed a set of organizational and teaching materials for the creation, maintenance, colorful presentation and storage in digital format of a portfolio of students and teachers. Including: diplomas and certificates, certificates, feedback on the level of competence, the level of work performed, research projects, term papers and dissertations. The result of the study was developed recommendations for maintaining a portfolio of student and teacher, effective and competent advertising of their achievements.

After the grant was completed, the work continued at a new level. Further studies were devoted to the study of the effectiveness of the use of modern web tools and services in the educational process and in professional activities. Open seminars and webinars are held regularly, a successfully developed information system for web portfolio management has been developed (4portfolio.ru). The portal is filled in and provides schoolchildren with a service for maintaining a portfolio, university graduates, and convenient tools for further filling and maintaining a portfolio in their future professional activities.

Scientifically substantiate and develop organizational-methodical and software for creating and maintaining a continuous web-portfolio of trainees in order to increase the objectivity of the evaluation of educational achievements; for the formation of skills of self-presentation, competent presentation of their achievements, the effective reflection of diverse work experience (including on various projects), communication and social skills.

2 Development Of Methodology

2.1 Subtitle Suggested Methods And Approaches

To solve the tasks, the following research methods were used: theoretical analysis and generalization of the results of domestic and foreign studies on pedagogy, psychology, computer science, sociology; the study of special literature; study and analysis of best practices for creating and maintaining an electronic portfolio, digital portfolio, online portfolio, web portfolio; observations, interviews, questioning; pedagogical experiment; processing and theoretical analysis of the results of the experiment.

Understanding the issues of the project leads to the need for a scientific study of the implementation of a personality-oriented and competence-based approach to building an individual educational trajectory of the student, increasing the visibility of the presentation and objectivity of the assessment of the student’s professional competencies in the web portfolio of achievements; organizing joint information activities and information interaction between students and teachers on a special portal.

2.2 Justification Of The Applied Methods And Approaches

Application of personality-oriented and competence-based approaches to the scientific substantiation of the use of the web portfolio by students and teachers implemented in a special environment is aimed at ensuring the effectiveness of self-representation and increasing the objectivity of the assessment of achievements, on providing conditions for information activities and information interaction, on meeting the needs of society for specialists able to successfully adapt and fulfill themselves in a rapidly changing social environment. Personally oriented, competence-based, result-oriented approach to the presentation of personal, educational, scientific, professional achievements of users of a specialized information system for maintaining a web portfolio should, first, increase the objectivity of diagnostics and evaluation of educational achievements of schoolchildren and students, open new horizons for improving quality learning and academic performance. Secondly, to provide teachers with new tools for information interaction with students to help them in building an individual trajectory of learning and professional development. And the third point - maintaining a continuous web portfolio should be a competitive advantage of a university graduate.

The validity of the application of the selected approaches is determined by the fact that the tasks set were accomplished through the implementation of a person-centered approach to building an educational trajectory

and a competent approach to forming the list of necessary competencies presented in the portfolio, as well as indicators and criteria for evaluating personal, educational and professional competencies.

2.3 The Current State Of Research On The Identified Issues

To date, the issues of the theory and practice of the implementation of technology and portfolio in the national education system are considered in the works: Zachesova E.V., Yeseninoy N.E, Orlova L., Pinsky M.A. and other authors.

Particular attention is paid to the implementation of the portfolio technology in the foreign education system, including in the USA, UK, Australia, New Zealand and other countries.

Among the most notable works, note the work of Professor Helen C. Barrett (White Paper: Research and Electronic Portfolios and Learner Engagement), (Differentiating Electronic Portfolios and Online Assessment Management). Systems), (Electronic Portfolios Digital Learning-Centered Portfolios) and other works of the author.

The results of portfolio effectiveness studies are presented in the works of authors such as: Carney, J. (Setting an Age for Electronic Portfolio Research: A Framework for Evaluating Portfolio Literature. Presentation at the American Educational Association Conference, April 14, 2004), Mahoney, J. (Power and Portfolios: Best Practices for High School Classrooms. Portsmouth: Heinemann, 2002), McDrury, J., Alterio, M. (Learning through Storytelling in Higher Education. London: Kogan Page. 2003), Mahoney, J. (Power and Portfolios: Best Practices for High School Classrooms. Portsmouth: Heinemann, 2002), Saffer, D. ("Why I Blog my Graduate Course" eLearningPost, Retrieved May 17, 2004 from: <http://www.elearningpost.com/features/archives/002351.asp>), Tosh, D. and Werdmuller, B. ("ePortfolios and weblogs: one vision for ePortfolio development.", Retrieved June 2, 2004 from: <http://www.eradc.org/papers/ePortfolioWeblog.pdf>), Tosh, D. and Werdmuller, B. ("Creation of a learning landscape." Retrieved July 16, 2004 from: <http://www.eradc.org/papers/LearningLandscape.pdf>), Zeichner, K. S. Wray ("Teaching and Teacher Education", 17, 613-621. 2001). The work describes the experience of using the portfolio in the education system, a number of authors note that maintaining an electronic portfolio in a social network opens up new opportunities for assessing achievements and learning outcomes from the entire time a student studies at a university and creates serious prerequisites for his further career growth. Of particular interest in the aspect of the practical implementation of the portfolio are the works of such authors as John Zubizaretta, Judith Brown, Peter Seldin, Rick Stiggins, Anne Davies, etc. with teachers, mentors and fellow students.

The study of the effectiveness of the introduction of technology portfolio was conducted in the framework of several dozen research projects. Including such famous projects as:

ComPort (comparative study of the electronic portfolio of implementation in the WBL). This project explores various approaches to e-portfolios / PDP to support students in the workplace using four different electronic portfolio systems in four colleges.

DELIA (provides Information for admission to universities). The issues of expanding the enrollment of applicants based on the results of the portfolio were studied.

ELP (learning progress of the student). This project evaluated the application features and potential of the e-portfolio (Bodington, Blackboard, and PebblePad) to support learners through their lifelong learning, especially when they graduated. Project results include case studies and guides.

Mansle (self-study and use of electronic portfolios). This project initially considered the electronic portfolio as a system for use in preparatory courses. The system implements a range of web services offered by existing platforms for creating and maintaining a portfolio (ePET). The project studied the development of an electronic portfolio as a tool based on the use of plug-in modules using a browser, and was tested to support students' personal and professional development.

However, in the national education system, the technology of creating and maintaining a portfolio in higher education has not yet received adequate justification and methodological support. This circumstance once again underlines the relevance and importance of the work done to study the theory and practice of creating and maintaining students of a continuous web portfolio.

3 Results

During the project, scientific and practical results were obtained.

The scientific results of the study are disclosed in the scientific publications of the project executors; they are a systematization of modern approaches to the creation and maintenance of a web portfolio. The scientific significance of the results is determined by the analysis of current trends in the development of this technology and the outlined perspectives. The basic concepts and definitions, including the concept of portfolio, e-portfolio, web portfolio, are specified.

Portfolio is viewed from two perspectives [Bar11, Pan13, Gos13, Sam13, Der09, She12, Smo13].

First, a portfolio is a way to record, accumulate and evaluate individual achievements of a person in a certain period of his activity.

Secondly, the portfolio is considered as a pedagogical technology, a tool for reflection.

The concept of a web portfolio has been introduced and disclosed, the goals and objectives of the web portfolio of the student and the teacher have been formulated, the features of the new technology have been identified. The set of conditions for the effective use of the web portfolio in the educational and practical activities of students and teachers has been determined. Developed and justified a system for diagnosing educational achievements of students undergoing training using a portfolio. Requirements for the competencies of teachers using electronic portfolio technology on the basis of a social network to assess the educational achievements of students and build an individual educational trajectory are developed. A system for diagnosing educational achievements of students undergoing training using a portfolio has been developed. Developed guidelines for students and teachers on the use of the portfolio in the educational process. For administrators of educational institutions to maintain a web portfolio.

The practical results are determined by using the methodological recommendations created within the framework of the project, methods developed for assessing students' educational achievements using the technology of the portfolio, and setting the teacher's rating on the materials presented in the portfolio.

Handouts for students and teachers were developed, which were used at seminars with students and teachers of Ryazan State Radio Engineering University, Ryazan branch of MESI, Financial University and numerous seminars and webinars held with more than 500 teachers from Russia, Belarus, Ukraine, Kazakhstan, Bulgaria and so forth countries. Published blogs. The research results were widely covered in professional communities in several social networks: VKontakte, Odnoklassniki, Google+, Facebook, nsportal, prosholy.ru, Professionals.ru and other social networks for teachers and educators.

Technical solutions of the portal 4portfolio.ru, created during the project, provide for placing on the pages of a portfolio information in a variety of formats: text, photos, video, audio information, links to Internet resources, to social networks. When creating an information system for maintaining a web portfolio, the Mahara tool was chosen, which allows you to fulfill all the requirements outlined above. In the course of their studies, pupils and students gradually fill up the piggy bank of their works, successes and achievements. The pages of the student or student portfolio site remain with him after graduation and are not tied to an educational institution.

It is determined that the web portfolio includes [Pan13, Gos13, Sam13, Smo13, Kny07]:

- Portfolio with an unlimited number of sections and thematic web pages.
- A closed area for storing the necessary information, files, notebooks, resumes, etc.
- Web-based tools and services for communication, exchange of letters, for creating communities, communicating on forums and comments on portfolio pages.

In the course of the project implementation, the main opportunities for using the technology of students' web portfolio are highlighted [Pan13, Ima 13, BEC06, Epo 05, Nov 03, Nov04, Fed13]:

- negotiations with peers, colleagues and teachers at a convenient time;
- demonstration of educational, scientific, personal (sports, music and other) achievements;
- assisting in planning personal development, building an individual educational trajectory;
- development of communication and social skills;
- encouraging reflective learning and the possibility of anticipation of anticipation;
- the use of accumulated documents in the transition from one school to another and after graduation;
- increase the chances of successful employment or continuing education at the next level;
- postgraduate support, career assistance after graduation;
- assistance in self-determination, self-representation, self-realization.

Filling your web portfolio is a creative process that reflects the author's personality, his ability to systematize information, present it vividly and authentically. Web portfolio allows you to collect and organize the results

in a variety of activities [Gos03, Kuh08, Bau12]. For example: educational, scientific, creative, public. It is important to teach the student to correctly collect, organize and present this information in a favorable light. It was especially difficult to convince the students [Ehi12, Bau12].

4 Discussion

At the moment, the issue of creating and maintaining a portfolio of achievements in schools, colleges and universities is very relevant. To date, there are no clear and detailed documents regulating the creation and use of a continuous web portfolio, not enough domestic scientific and practical developments.

To date, we have gained practical experience in creating and filling a portfolio in schools and kindergartens, some experience in creating and maintaining an electronic portfolio of students. The beginning of the process of introducing portfolio technology in the Russian education system was the resolution of the Government of the Russian Federation 334 "On conducting an experiment on the introduction of specialized training of students in General education institutions implementing secondary (full) General education programs" (2003).

In 2004, in order to implement this resolution and as part of the implementation of the state contract, a group of scientists and specialists from the State University – Higher school of Economics (HSE), the Academy of advanced training and retraining of education workers, teachers of higher and secondary schools prepared recommendations for the construction of various models of the portfolio of students of primary and secondary schools.

The above-mentioned document "Recommendations for the construction of various models and the use of the portfolio of students of primary and secondary school" provides the following interpretation of the concept of portfolio:

"The traditional portfolio is a selection, a collection of works, the purpose of which is to demonstrate the educational achievements of the student. Being, in fact, an alternative way of evaluation in relation to traditional forms (test, exam), the portfolio allows you to solve two main tasks:

1. To follow the individual progress of the student in the process of education, and without direct comparison with the achievements of other students.
2. Evaluate its educational achievements and Supplement (replace) the results of testing and other traditional forms of control. In this case, the final portfolio document can be considered as an analogue of the certificate, the certificate of test results (or act along with them)."

It should be noted that the authors of the document gave a very broad interpretation of the portfolio, thereby indicating almost unlimited, free context of portfolio use in education. These studies marked the beginning of the practice of using the portfolio in the Russian education system. The document proposes to use three main types of portfolio:

Portfolio of documents — a portfolio of certified (documented) individual educational achievements.

Portfolio of works — a collection of various creative, design, research student, as well as a description of the main forms and directions of its educational and creative activity: participation in scientific conferences, competitions, training camps, the passage of elective courses, various practices, sports and artistic achievements, etc.

Portfolio of reviews — includes assessment of the student's achievements, the analysis of various types of educational and extracurricular activities and its results, summary, planning of future educational stages, as well as reviews submitted by teachers, parents, possibly classmates, employees of the system of additional education, etc.

Portfolio of the student, and then the student is not only a modern effective form of self-presentation and self-evaluation of results in all activities, but also contributes to [Sam13, Ima13, Kuh08, Bau12, Bau12]:

- increase motivation for educational achievements;
- formation of reflexive skills, skills to objectively assess the level of their work;
- gaining experience in communication, development of communication and social skills;
- identification of individual inclinations, preferences of the student, the construction of an individual trajectory of development.

The portfolio includes: test papers, tests, essays, projects, abstracts, reports, creative works. Each work is accompanied by a brief comment: what worked well and what did not; whether he agrees with the assessment of the teacher, what conclusions he can draw from the results of this work, what plans to build. The main thing in this work – self-assessment of the student, and in the form of reasoning, reasoning, justification. Web portfolio is a digital format of self-presentation, creation of virtual "I", self-promotion for finding interesting work. Social

services allow you to communicate, expand the circle of communication, demonstrate success, allow you to share ideas, achievements and thoughts.

In the course of the study of different approaches to the creation and use of portfolios in educational practice, various principles of classification of portfolios are defined, presented below.

4.1 The Classification Of The Portfolio In Terms Of Distribution.

Individual or personal. This electronic portfolio is created on a personal initiative and is intended for distribution to friends, acquaintances and personal professional contacts. The content of the personal electronic portfolio and its distribution is not regulated.

Training group, company or organization. This portfolio is created at the initiative of the teacher, company or organization management and reflects the current achievements of students or employees. The content of such electronic portfolio and its distribution is regulated by the internal regulations of the educational institution or organization. After the participant leaves the group (educational institution, organization), access to the portfolio may be restricted or closed.

The level of the region. The electronic portfolio of the region level is created at the initiative of regional authorities and serves for monitoring of education, carrying out certification of teachers and other purposes. The content of such electronic portfolio and its placement on the Internet is regulated by the regulations of regional authorities.

Federal (state) level. Recently, the Ministry of education and science of the Russian Federation is taking the initiative to introduce a portfolio of students in educational activities and use its content to assess the extracurricular achievements of students. It is planned to use these data for admission to higher education institutions of Russia. The content of such electronic portfolio and its placement on the Internet will be regulated by regulations of the Ministry of education and science of the Russian Federation. The practice of state-level projects to create an electronic portfolio in the education system exists, for example, in New Zealand - the MyPortfolio project for schoolchildren <http://myportfolio.school.nz> and students <http://myportfolio.ac.nz>.

The level of the Internet community. Electronic portfolio of this type is distributed in the social network of the Internet community. As an example, it is possible to note a portfolio of teachers <http://www.proshkolu.ru> and <http://nsportal.ru>. The contents of electronic portfolio the Internet community is determined by the queries of the participants.

The classification of the portfolio of technological approaches for implementation.

Depending on the implementation technology used, the electronic portfolio can be of the following types:

Local portfolio (distributed on DVD, flash drive). This portfolio is often used in educational institutions. The local portfolio is usually presented in the following formats: Microsoft Power Point (.ppt, .pptx, .pps); text document (.doc, .docx, .pdf), rarely — in graphic formats (.png, .jpg, .tiff), in open Office (.odt, .odp) and others.

Network portfolio (located in the local network of the institution or the Internet). A portfolio is a collection of documents that are shared online. In terms of document presentation formats, the network portfolio is similar to its local counterpart. The advantage of the network portfolio is its availability for a wider range of people [Smo13, Bau12, Ehi12].

Web portfolio (located on the Internet). Electronic portfolio material is stored in a database and is heterogeneous. The software and tool environment supports the client and server levels. Access to the content of the portfolio is provided via an Internet browser. The software implementation can also provide the following functions:

- user authorization and access to information;
- organization of social networks and communities;
- publishing blogs;
- get feedback and comments from community members;
- publication of summary;
- organization of thematic forums, chats, conferences, webinars;
- create and manage content.

A web portfolio can also include a collection of files, media resources, and links to external sources with customizable access.

4.2 Portfolio Classification By Technical Infrastructure

An electronic portfolio is created as a separate document on the local computer. To develop a high-quality electronic portfolio, you need to have installed office applications on your computer, graphics packages, audio and video processing tools, animation, and skills to work with these programs.

Client-server software for portfolio management. There are a number of instrumental systems that provide ample opportunities for creating a portfolio, but their functioning requires a dedicated server connected to the Internet, or the use of an Internet provider hosting. As an example, the platform Mahara. This is a free, open source project, distributed under the GPL license, but it requires installation on the server, software configuration and administration. Localization of the program is required for use as a national platform.

Using thematic Internet projects that provide services for the creation and placement of an electronic portfolio. This category includes most of the Russian projects reviewed above: "4 Portfolio" (<http://4portfolio.ru>), "Educational and Methodological Portal" (<http://www.uchmet.ru>), "ProShkolu.ru" (<http://proshkolu.ru>), "Social network of educators" (<http://nsportal.ru>) and others. To create and place an electronic portfolio registration is required on the resource.

Use of cloud platforms, such as Google Apps, that provide tools for creating, editing, and posting documents, photos and videos, and communication tools. These tools can also be used to create and host an electronic portfolio.

5 Conclusion

Organizational and methodological support developed within the framework of the project allows students and teachers to effectively use the web portfolio tools, including: expanding the circle of their communication, clearly demonstrating their successes, sharing their ideas, achievements and thoughts with a multimillion audience of a social network. Presentation of important individual achievements on the portal 4portfolio.ru will allow each user to collect and organize "digital traces", to fill his personal personal virtual space, his virtual "I". Educational institutions have the opportunity to register on the portal, administer the work of students, moderate the work of students and teachers of their university, conduct all sorts of competitions, carry out a rating assessment of the achievements of students and teachers.

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