

ROLE AND APPLICATION OF E-PORTFOLIOS IN EDUCATION

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Abstract: The use of modern technology is part of everyday life. As in other areas of human endeavor, modern technology finds its place and use in the education, too. Technology in education is used as a means of improving the teaching and learning process. Lately, it is more and more talked about the importance of keeping the e-portfolio. In this paper, we will just deal with the e-portfolio, in particular the importance, role, benefits and shortcomings which it has expressed in practice. E-portfolio is a collection of digital works which document and monitor the achievement and progress of students. The importance of using an e-portfolio is a multiple. It contributes to the ongoing monitoring of students' progress, serve as a basis for evaluating the performance of students, promote communication and cooperation among participants of the educational process, contributing to the development of specific skills and abilities of students, etc.

Keywords: e-portfolio, portfolio, e-learning.

1. INTRODUCTION

Modern life conditions, the development of science and the impact of modern technology in all areas of human activities have put new demands on the school. Due to the fact that the school ceases to be one of the dominant sources of education, increases the need and importance of its relations with other agents that are involved and active in the education of students. There are many environmental factors that affect the development of students, some of them are: family, school, peers, the content of free time (hobby), mass media, computer, etc. We see that children and young people are increasingly disparate information technology.

In the pedagogical literature is quite often talked about the positive and especially the negative impacts which the use of technology can produce. If we want to continue with the contemporary trends of development of science and technology, it is necessary to accommodate to the new conditions and to take advantage of its offer. The impact of technology on teaching is great and in the future is likely to play an increasing role. The classroom is widely used of Power Point presentations, audio, video, Internet, blogs, and so on.

As evidence of the importance and applicability of technology in the educational context it is usually emphasized the fact that technology can: make visible evidence of the process of student thinking and working, store and maintain students' works, and also it plays an important role in setting individual goals.

The term e-learning is relatively new concept, which has appeared twenty years ago. The term e-learning means "any form of education in which educational content is delivered in electronic form" (Petrović, 2009: 266).

E-learning means the use of different media: computers, video projectors, digital camera, different software, and so on (Petrović, 2009).

An example of efficient use of technology in education is the development of e-portfolios. The theme of this paper will be the design and the use of the portfolio in education. First of all, it will be discussed the use, importance, advantages and difficulties of implementation of electronic portfolios in education.

2. THE TERM ELECTRONIC PORTFOLIOS FORMATING THE PAPER

The concept of an electronic portfolio was created and developed on the basis of the so-called "paper" portfolio. As regards to that, it is first necessary to consider what the portfolio is, and then to highlight the specific features of electronic portfolios.

The word portfolio comes from the French word meaning *portfeuille* which means wallet, bag, securities. In the pedagogical literature, there are different ways of defining portfolio.

"Portfolio is not a comprehensive compilation of all documents and materials created in the course of the pedagogical process. Basically, it represents selected information on teaching and learning activities and solid evidence of their effectiveness" (Seldin, 1997: 2).

According to Krnjaja and Miškeljin (2006), portfolio is carefully selected collection of articles about what a child knows, what he can do, and they are collected over a period of time and which are evidence of the child's efforts, successes, progress. Portfolio is different from any other employment record for being a collection of the best works, which the one whose portfolio is have chosen, and

that portfolio is not just a place to store it but the basis for self-evaluation of its own work and progress.

Portfolio is defined as a collection of works “selected by students and through which one can see clearly the effort, interest, motivation, achievement and progress in one or more areas of teaching” (Španović, 2002: 45).

From the above definitions of the portfolio it can be seen that it is a diverse collection of children's work that have been carefully selected to provide evidence of the child's development and progress. What makes portfolio specific in relation to the files is the content of portfolio which consists of the best works chosen by child's will.

The transformation of portfolios into electronic portfolios comes with the development of information and communication technology. In what way e-portfolio is defined in pedagogical literature? Electronic portfolio is a digital collection of documents that show the progress, development and achievement of the individual (Lulić, 2012: 9).

Electronic portfolio is comprehensive collection of information and digital artifact that represent development or proof of teachings, skill and competence. Process of making e-portfolio (writing, typing, recording, etc.) usually demands synthesis of ideas, reflection, achievements, self-awareness and planning (Cotterill, 2007).

E-portfolio is defined as "software that helps students to showcase their knowledge and skills in a richer way" (Niguidula, in Tosun & Baris, 2011: 44).

At first glance, from above mentioned definitions, basic and essential difference between portfolios and e-portfolios is in form that is in the way of representing the content. What makes an e-portfolio specific is the use of modern technology in the creation and presentation of content.

Tosun and Baris (2011) have defined the similarities and differences between electronic and paper portfolios. Some of the similarities that connect ordinary portfolio and e-portfolio are:

- defining the objectives
- process of making,
- the student is at the center,
- the exchange of ideas,
- constant update of,
- exchange of ideas,
- reflective learning,
- providing a transition to lifelong learning,
- highlight the successful results.

Some of the features that make the e-portfolio specific than a regular portfolio are the following (Tosun & Baris, 2011):

- easy sharing,
- exchanging ideas with broad masses,

- focusing on product rather than process,
- accessing and updating anywhere,
- the need of computer and internet infrastructure to use it.

Regardless to the similarities and differences, the plain and e-portfolios aim at common goals. Undoubtedly, some benefits of e-portfolios stand out why it is becoming one of the key innovations in teaching. Further on it will be discussed the use and way of use of e-portfolios in education.

3. THE USE OF E-PORTFOLIOS IN EDUCATION

When it comes to the use of e-portfolio, first of all it is thought of the ability of using e-portfolios in education, the process of making an e-portfolio and as well as to its content.

The development of the education system has always been influenced by the socio-historical context of the period in which it develops. Every society has built itself a specific system of education that would suit his needs. Today, in the era of information and communication technologies, the education system has placed new demands and expectations. First of all, one of the key objectives of any system of education is to train students for life in contemporary life conditions. Therefore, there is no longer a dilemma if there is a need for use technology in the education of students. This is necessary if we want the school to prepare students for future roles in society. The wide possibility of application of modern technology, as well as students interested in them, enables modern technology to appear more and more in the role of teaching aids.

Developments in information and communication technologies, increasing number of users of these technologies, adapting easily to new generations of these technologies has enabled the use of e-portfolios (Tosun & Baris, 2011).

According to Barrett (2006), the process of making an e-portfolio starts by defining goals and what you want portfolio to achieve. Defined goals continue to influence on the selection of content, process design, and the method of presenting. An important step in the development of e-portfolio is a selection of tools that will be used in the development of the portfolio, such as for example Microsoft Office or Adobe Acrobat. Tools enable the student to publish their portfolios on CD or a local area network server.

In developing the portfolios some of the following files are being used: text, graphics, video, audio, images and animations. E-portfolio can be available via the website, CD or DVD (Đukić and Španović, 2009).

There are four parts in e-portfolios development:

1. *Determination of the portfolios' context and goals*

This is one of the key stages where we decide what we want to achieve with e-Portfolio. In fact, at this stage the frames are set and the context is determined in which the e-portfolio develops. It is necessary, before we begin the process of developing an e-portfolio, to identify resources that are available. Setting goals are precondition and a determinant of further development of e-portfolios.

2. *Making an e-portfolios*

The second stage in the development of the portfolio is the longest. At this stage, depending on the type of e-portfolios and goals, the collection and selection of cases are made. Also, it is important to choose a software development tool that best fits the current context and available resources. Along with the collection of items it is suggested that short reports about their meaning should be written.

3. *The Reflective Portfolio*

At this stage, the question is what the owner of portfolio has learned from the process of development. At this stage the thinking about their work is significant. Three key questions are to be asked at this stage are:

- What?
- So what?
- Now what?

4. *The Connected Portfolio*

This phase is characterized by the e-portfolio, because there are the possibilities offered by different software packages to create portfolio. The advantage of this phase is reflected in the possibility of establishing a relationship between documents. For example, it is significant when the e-portfolio can establish a connection between the set objectives and the evidence that these objectives have been achieved.

5. *The Presentation of Portfolio*

Presentation of the portfolio to a group is the last stage in its development. It contributes to the student getting information back on their own performance and achievement. Public presentation of the e-portfolio encourages reflection on their work (Barrett, 2001).

According to Đukić and Španović (2009) the development of the portfolio should be guided by certain criteria. First of all, the portfolio should ensure that:

1. students and teachers define learning objectives and teaching,
2. represent an expression of the creativity of students,
3. facilitate communication between students and teachers,
4. support cooperation between students, and students and teachers,
5. contribute to reflection and encourage students to reflect on their own performance,
6. has adequate capacity to connect different work product,
7. be adaptable to different contexts, situations and purposes,

8. present works in a variety of forms,
9. information and evaluation data are available, but at the same time preserves the privacy of students,
10. payable that is, economic.

Based on the foregoing, it is concluded that ICTs have one of the key roles in the creation of portfolios. They enable the collection, selection, classification and storage of large amount of data on the operation and development of students. Creating an e-portfolio is a creative work that requires certain skills and abilities. Computer literacy is a key prerequisite for the development of e-portfolios. The teacher, as a person who should be help and support in the development of e-portfolio, should be professional competent and motivated to work on e-portfolios.

4. DIFFERENT KINDS OF E-PORTFOLIOS

There are different classifications of e-portfolios. E-portfolios can be divided into the following types (Lorenzo & Ittelson, 2005):

1. Student's e-portfolio,
2. Teacher's e-portfolio,
3. Portfolio of institution.

Student's e-portfolio is a kind of portfolio that student make. It is a collection of student work which function is monitoring the development of students. *Teacher's e-portfolio* is a portfolio that represents the evidence of the teacher's skills and achievements. This portfolio can be used as a criterion for career advancement. Also, the function of this portfolio is to encourage teachers to critically evaluate their own practice. *Portfolio of institution* presents the institution to public. It can contain programs and development plans of the institution, as well as specifics of certain institutions.

Depending on the purpose or function that an e-portfolio has, there are following categories of the e-portfolio (Abrami & Barrett, 2005):

1. Process portfolios,
2. Showcase portfolios,
3. Assessment portfolios.

Process portfolios are the collection of student work that reflects their development, progress and effort invested in one or more areas. The importance of this type of portfolio is a multiple. First of all, its key role is reflected in the inclusion of students in active learning. In addition, it is important to note that it contributes to the development of students' responsibility for their own choices, encourages and motivates them to understand themselves and focus on their strengths. *Showcase portfolios* are the type of e-portfolio, which aims to present a model of students' work and their skills. With this portfolio the quality of students' work becomes visible. *Assessment portfolios* are the portfolio with the primary objective to assess the student's achievement in relation to pre-established goals.

It is important to emphasize that in practice it is usually present a combination of these three e-portfolios.

5. THE ADVANTAGES AND DIFFICULTIES IN THE DEVELOPMENT OF E-PORTFOLIO

The process and the procedure of developing an e-portfolio is based on the fact that the student and his abilities, skills, accomplishments and convictions are at the center of teaching activities. It requests an active role of students in all phases of teaching activities. It is particularly important to note that with the help of portfolio students have active role in the evaluation, which contributes to the development of students ability to evaluate their own work. Furthermore, assessing the student's own work, they understand the meaning of learning. Also, the process of developing the portfolio encourages students to cooperate with other students and the teacher.

Portfolio is a real image that is happening every day in the classroom. Based on it we gain an objective insight into the opportunities, needs, interests and abilities of each student in the classroom, but also insight into the group as a whole. Therefore, a portfolio is documenting and monitoring the development of each student in the class, which contributes to individualize teaching and to adapt it to the needs and abilities of each student. Most authors agree that the e-portfolio contributes to the development of habits for lifelong learning.

There are some advantages of e-portfolios arising from the possibilities offered by the application of technology in its production. Some of them are the following (Tosun & Bariş, 2011):

- a wider context;
- serving different groups (individual, student associations, regions and cities, social communities);
- archiving;
- link building/thinking;
- cooperation;
- reorganization;
- publication.

Although the e-portfolio practice showed many advantages, which was mentioned before, however, there are some difficulties and shortcomings in its implementation.

In the process of evaluating their own work, evaluation of students can be subjective. Also, the products that are included in the portfolio content may not always be a product of student work, and sometimes the other he can help with it (Đukić and Španović, 2009).

Besides the mentioned shortcomings of e-portfolio, it is important to note that the development of e-portfolios require that the school has the resources that are necessary. Therefore, whether to apply in practice the e-portfolio does not depend only on the decisions of teachers and students.

Considering the fact that the design of e-portfolios require IT literacy among students and teachers can create resistance to the e-portfolio. Also, the portfolio requires additional time for the organization, collection and evaluation of works, which can cause resentment.

Also, the use of technology in the portfolio, if not adequate, it can become its own goal. That is, we should always be aware that the e-portfolio is designed to monitor and document children's development, and that technology has a role to ensure that resources.

6. CONCLUSION

E-portfolio is a written record of what the student knows, knows how, what skills and abilities has. Apart from its answering the question what the student can and know, the e-portfolio indicates the students' attitudes and beliefs. A special place in the e-portfolio covers student explanation about their capabilities and achievements, based on which can have an insight into his self-assessment.

The portfolio cumulatively records, documents and monitors the achievement of individual students. Accordingly, it is an evolving document that changes in step with the student's development and progress.

E-portfolio is proof that the correct application of new technologies can facilitate and support the student's development in school. As already told, application technology in the development of e-portfolios encourage students to communication, collaboration, self-directed learning, contributes to the development of creativity and digital literacy. However, in order to show all its benefits in practice, we must meet certain conditions, such as to provide resources, motivation and enable teachers for the development of e-portfolios in schools.

Since the e-portfolio is a novelty, it is necessary to provide adequate support to teachers in its implementation. It is necessary to organize regular in-service training, facilitate the exchange of opinions and experiences, as well as motivate them to take the newspaper and renounce long-standing routines.

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