Eszterházy Károly University
PhD School of Pedagogy
Digital Pedagogy Program

Thesis

Research of Eportfolio of Teacher Trainee MA Program at Eszterházy Károly University

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Content

The Importance and Actuality of the Topic

Today we hear more and more about the educational role of eportfolio. It appears in such strategic documents as the Digital Educational Strategy of Hungary[1] which states that eportfolio will be introduced in Hungary as a tool which supports adult digital learning environments, but we can also find initiatives which supports the introduction of eportfolio among the elements of Education & Training 2020 program coordinated by the European Commission. Among these Eufolio[2] which was established in collaboration with 14 countries is outstanding.

It was an important stage in the usage of eportfolio when it was begun to use in MA teacher training, but portfolio appears in the regulation[3] about the common requirements for teacher training, and it has important role in the governmental regulation about the legal status of the state employee and the promotion system of teachers[4].

The second aspect of the topic choice was that on the basis of literature using eportfolio could have a number of positive effects on the educational process.

Among the positive effects of eportfolio on the one hand we should mention media integration which makes possible that beside the text and still picture elements of traditional portfolio motion picture, sound files and animation elements can also be integrated into eportfolio, while on the other hand we have to emphasize that it could be shared in an extensive way.

The greatest advantage of using eportfolio is maybe the application of tools of metacognitive processes. Metacognition has advantaged role, because it helps the individuals to become self-regulating students. This kind of learning environment makes possible for the students to construct and transfer their knowledge on the basis of their earlier knowledge and experience. Students can take advantage from not only their interaction and collaboration with teachers and other students, but also from the wide range of sources which develop a lot of competences such as critical thinking and responsibility for the learning processes (Glasersfeld 1989).

The third reason of the topic choice is that I wanted to examine the efficiency of the introduction of eportfolio in teacher MA program in Eszterházy Károly University. In our

[1]Digital Educational Strategy of Hungary can be downloded here: http://www.kormany.hu/download/0/cc/d0000/MDO.pdf, page 120. Retrieved: 3/10/2016.
[2] Webpage of Eufolio project: http://eufolio.eu
[3] 8/2013. (I. 30.) EMMI regulation
[4] http://net.jogtar.hu/jr/gen/hjegy_doc.cgi?docid=A1300326.KOR

university, the introduction of eportfolio started in 2007 and in 2008 we began to use the portfolio system which is still used.

The basic condition of effective application is that students understand the aims of eportfolio, the criteria of evaluation and the concept and role of metacognivive tools (e.g. reflection) of creating eportfolio.

Since we do not have experiences about the efficiency of the introduction of eportfolio in Eszterházy Károly University, at first it is essential to reveal if students are familiar with the basic concepts of eportfolio. Further questions are the following: Do students know the possibilities of this electronic tool? Are the former experiences of making eportfolio transferable? Do these former experiences have influence on the efficiency of the present portfolio making? And last, but not least: was the functional integration of eportfolio into the education system of Eszterházy Károly University successful?

Concept and Types of Portfolio

The word portfolio comes from the Latin "portare" (carry) and "folium" (leaf) expressions and came into usage in a lot of languages by French (portefeuille) and Italian (portfolio) intervention.

Educational portfolio has a lot of definition. Comparing them it can be find that almost all of the definitions state that portfolio is a collection of selected or not selected documents. There are also a lot of definitions that emphasize the importance of metacognitive processes (reflection, the metacognitive aspects of knowledge). But it is impossible to summarize in only one definition the meaning of portfolio because of the different functions of its different types.

In the literature there are differences in typifying portfolio, e.g. Danielson and Abrutyn (1997) distinguish three main types: developmental (working), showcase and assessment.

From the point of view of its technical realization we distinguish two big types of eportfolio. Those tools and services belong to the first type, which are more or less suitable for creating portfolio, but their original function is not supporting portfoliobuilding. Three portfolio types belong to here:

Offline webfolio

It is made up of webpages (or rather HTML documents) and contains documents made by digital media editor software.

Static online portfolio

This kind of portfolio can be achieved on the internet by typing the title of the appropriate webpage. It can be created with the help of online services (e.g. on wix.com, web.com, weebly.com, eHost.com etc.)

Web 2.0 online portfolio

This eportfolio can be created also by online services (such as Google Sites) which enable to create personal websites for free of charge or for a fee.

The second big type of portfolio systems is dedicated eportfolio system:

Dedicated educational eportfolio system

The main element of this portfolio system is a server with an installed portfolio software which enables the portfolio services for the students and the teachers. In an ideal situation the server is operated by the educational institute.

Integrated eportfolio system

This kind of eportfolio system is integrated into an existing management system, mostly to the learning management system (e.g. Moofolio eportfolio system which is integrated to Moodle learning management system)

Advantages of Using Eportfolio

According to Siemens (2004), eportfolios offer many benefits for students:

1. Personalized knowledge management
2. History of development and growth
3. Planning/goal setting tool
4. Assist learners in making connections between learning experiences
5. Provide the metacognitive elements needed to assist students in planning future learning needs based on previous successes and failures
6. Personal control of learning history

Self-regulated learning, metacognition and reflection

There is a complex relation between self-regulated learning, metacognition and reflection: reflection belongs to the metacognitive processes, but at the same time practicing reflection can lead to new metacognitive processes. According to Flavell (1979), self-regulation is a kind of metacognitive strategy and it has close relation with choosing the suitable learning strategy. According to Wade, Abrami and Sclater (2005), creating eportfolio is an excellent way to develop students' self-regulated learning skills and it helps developing active and independent students with critical attitude (Abrami et al. (2008).

Boesch (2015) draw up the role and importance of eportfolio in the following way: eportfolio ensures wide range of tools for developing metacognitive processes and creating eportfolio is a kind of metaphor for metacognition. Why? Because while creating eportfolio students must think about the process of thinking which is metacognition itself.

Eportfolio and Digital Literacy

According to Calvani et al. (2008), there are three different dimensions of digital literacy: technological, cognitive and ethical dimensions which can also be noticed by using eportfolio.

If we would like to create eportfolio it is essential to have technological knowledge as we must create the documents and publish them in a properly organized form.

The dimensions of digital literacy are in close relation which is particularly true in the case of technological and cognitive dimension. Technological knowledge enables the usage of tools, but without cognitive skills this usage cannot be successful.

With reference to the examination of ethical dimension, Calvani et al. (2008) point out that it is essential to understand the etiquette of the computing network environment, the importance of defending personal data, the respect of others' intellectual property and the technical aspects of sociocultural inequality.

Hypotheses

I.

Eportfolio has been being applied in Eszteházy Károly University for 7 years. In this way, it could be supposed by good reason that it has found its place in the training process. It is important to survey the functional integration, because this is the first step to the metacognitive processes.

H1: The functional integration of eportfolio into the education system of Eszterházy Károly University was successful.

II.

The second panel surveys if there is connection between the familiarity of the aims of eportfolio and firstly the estimation of the importance of it, secondly the knowledge of the concept of reflection and the estimation of the importance of it.

H2: Familiarity of the aims of eportfolio is in close relation with the estimation of the importance of it.

H3: Familiarity of the aims of eportfolio is in close relation with the knowledge of the concept of reflection.

H4: Familiarity of the aims of eportfolio is in close relation with the estimation of the importance of the concept of reflection.

III.

The third panel examines if the students' IT competence influences their choice of mediaelements planned to the eportfolio.

H5: The IT competence influences the choice of mediaelements planned to the eportfolio.

IV.

On the basis of literature, the fourth panel starts from the assumption that professional experiences got over the years spent in teaching, on one hand widen the teachers' interests and on the other hand overstepping the initial difficulties of professional development (Fuller, (1969), Huang and Li (2012)) teachers become open to understand new concepts and methods (Furlong and Maynard 1995) including eportfolio and reflection that is connected closely to eportfolio.

H6: The number of years spent in teaching is in close relation with the familiarity of the aims of eportfolio.

H7: The number of years spent in teaching is in close relation with the knowledge of the concept of reflection.

H8: The number of years spent in teaching is in close relation with the estimation of the importance of the concept of reflection.

V.

On the basis of literature, the fifth panel's hypothesis assumes that the students who created portfolio earlier plan the draft of eportfolio in a more effective and conscious way.

H9: The earlier experiences of creating eportfolio could be transferred and they could influence the efficiency of creating a new portfolio.

VI.

In the sixth panel it is assumed that the everyday teaching activity influences the teachers' metacognitive activity.

H10: There is close relation between the type of the school the teacher works for and the knowledge of the concept of reflection.

H11: There is close relation between the type of the school the teacher works for and the estimation of the importance of the concept of reflection.

VII.

The seventh panel examines that if students get the essential information of creating eportfolio and the efficiency of information transfer.

H12: There is relation between the information given by the departments about eportfolio and the familiarity of the aims of eportfolio.

H13: There is relation between the information given by the departments about eportfolio and the estimation of the importance of the reflection.

H14: There is relation between the information given by the departments about eportfolio and the number of documents not just planned but also uploaded by the students to the portfolio.

Introduction of the Research

The research examined the teacher trainee MA students of Eszterházy Károly University to whom it is compulsory to create eportfolio.

The survey was made by an e-survey form developed at Eszterházy Károly University and I completed the results with the data got from the logfile of the server providing the eportfolio service.

Increasing efficiency, we wanted to establish connection between filling up the form and attending the courses. In behalf of this we searched for a course which fulfills the criteria of selecting a random sample: students can join the course in any year, there is no pre-requisite, all the students must complete the course.

After choosing the course and informing the colleagues we tested the device (technical problems, simplicity of the questions, given time for filling up the form) in February 2014, and on the basis of the results and experiences, a year later, in February 2015 the survey was carried out.

The 4 subjects of the e-survey form are the following:

- Background variables
- Questions on estimating portfolios
- Questions on estimating the conditions of effective portfolio usage
- Questions on estimating determinants of creating a portfolio

The Results of the Research

The aim of the surveys drafted in the hypotheses was to get detailed information about the operation of eportfolio system at Eszterházy Károly University. We wanted to know if eportfolio fulfills its duty, if we can count on the results which appears in the literature and if it was successful to *integrate eportfolio completely to the training system.*

H1: The functional integration of eportfolio into the education system of Eszterházy Károly University was successful. – *disproved*

During the functional survey of eportfolio we wanted to know if students use this tool regularly and collect the created documents consciously on the storage of the portfolio. Of course, we did not hope that students accept and feel eportfolio of their own from the first year, but we were confident that considering the last years of the surveyed six school years we could report about the fact that portfolio had founded its place. Unfortunately, the results of the survey show different data: eportfolio was unused during the most part of the semesters, even in the last surveyed years students did not collect their works on the storage (note that uploading files is compulsory only for the graduating students).

It would be worth to start a new survey to find out the reasons, in the absence of this we can only guess that one of the reasons could be the learning management system which operates in parallel with eportfolio and in functionality it is similar to eportfolio (e.g. uploading documents). Another reason could be that in our training program we have courses which last for two years and they give only a very short time for collecting documents.

H2: Familiarity of the aims of eportfolio is in close relation with the estimation of the importance of it. – *proved*

H3: Familiarity of the aims of eportfolio is in close relation with the knowledge of the concept of reflection. – *proved*

H4: Familiarity of the aims of eportfolio is in close relation with the estimation of the importance of the concept of reflection. – *disproved*

The H2-4 hypotheses surveyed that if students understand the aim of creating eportfolio and the relation that can be noted between this knowledge and firstly the estimation of the importance of portfolio and secondly reflection.

We can state that familiarity of the concept of portfolio is in significant relation with the estimation of the importance of eportfolio and the knowledge of reflection: those who understand the aim of creating eportfolio consider this tool more important and – probably because of their deeper knowledge of it – it is most likely to understand the concept of reflection, too. However, it is interesting that although reflection is one of the most important part of portfolio, there is no significant relation between the familiarity of the aim of eportfolio and the estimation of the importance of reflection.

H5: The IT competence influences the choice of media elements planned to the eportfolio. – *partly proved*[5]

If we would like to make the best of the possibilities provided by eportfolio it is worth to upload such kind of media elements to it which could not been used with the traditional paper-based portfolio (e.g. sound, video, animation). On the basis of the hypotheses, there is significant relation between IT competence and the media elements planned to the portfolio, that is the media element type built into the eportfolio is determined by not only the fact that which one is the most suitable for showing the given task, but also by the digital literacy of the students.

The surveys show that on the determined levels there is significant relation between the level of digital literacy and planning of animation, video, still picture and presentation into the portfolio. On the other hand, there was not found relation between planning sound to eportfolio and the level of digital literacy[6]. The results direct the attention to the fact that to the effective use of eportfolio it is essential for the students to have the appropriate level of digital literacy and the university has to integrate the acquisition of it into the training process.

H6: The number of years spent in teaching is in close relation with the familiarity of the aims of eportfolio. – *proved*

H7: The number of years spent in teaching is in close relation with the knowledge of the concept of reflection. – *disproved*

H8: The number of years spent in teaching is in close relation with the estimation of the importance of the concept of reflection. – *disproved*

In the survey, it was assumed that the professional experiences got during teaching widen the teachers' interests and after overstepping the initial difficulties of professional development they become open to understand new concepts and methods including the aim of eportfolio and reflection.

After completing the survey, it can be stated that there is significant relation between the number of years spent in teaching and the familiarity of the aim of eportfolio, however

[5] It was not successful to prove the hypotheses relating to sound.
[6] The relation between text and digital literacy was not surveyed.

regarding the knowledge of the concept of reflection and the estimation of the importance of the concept of reflection it cannot be asserted.

H9: The earlier experiences of creating eportfolio could be transferred and they could influence the efficiency of creating a new portfolio. – *disproved*

During the survey, we were eager to know that experiences got by creating eportfolios and development shown by the literature can be noticed or not if students are asked to create a new portfolio. An indicator of the development can be the conscious planning of creating new eportfolios by the students and we assumed that as a result of this students could finish the documents for the eportfolio earlier. However according to the survey, there is no significant relation between the earlier experiences of creating eportfolio and the level of preparedness of documents for eportfolio.

H10: There is close relation between the type of the school the teacher works for and the knowledge of the concept of reflection. – *proved*

H11: There is close relation between the type of the school the teacher works for and the estimation of the importance of the concept of reflection. – *disproved*

In the next two hypotheses, we assumed that the daily teaching activity influences the teachers' metacognitive activity. Teaching activity is different in the various educational institutions and the type of the school the teacher work for effects the metacognition and the reflective processes which help teachers to solve the problems emerge during the teaching activity. According to the assumptions, some teachers use the tool of reflection consciously for problem solving, so they must understand its concept, too. In our hypothesis, we wanted to examine if there is a disparity between school types and knowledge of the concept of reflection.

On the basis of the survey, there is significant relation between the type of the school the teachers work for and the knowledge of the concept of reflection, but there is no significant relation between the type of the school the teacher works for and the estimation of the importance of the reflection.

H12: There is relation between the information given by the departments about eportfolio and the familiarity of the aims of eportfolio. – *proved*

H13: There is relation between the information given by the departments about eportfolio and the estimation of the importance of the reflection. – *proved*

H14: There is relation between the information given by the departments about eportfolio and the number of documents not just planned but also uploaded by the students to the portfolio. – *proved*

The next hypotheses according to which there is relation between the information given by the departments about the portfolio and the familiarity of the aims of portfolio, the number of documents not just planned but also uploaded to the portfolio and the estimation of the importance of the portfolio could seem self-evident for first reading as we can assume that all the departments participating in the teacher trainee MA program inform the students about the steps of creating eportfolio. However apart from the assumption we do not have concrete information about this. With creating these hypotheses, the aim was to reveal if (according to the students' opinion) the departments share the essential information of creating eportfolio with the students and get to know the efficiency of this process.

On the basis of the completed survey, there are significant relations between the information given by the departments about the portfolio, the familiarity of the aim of the portfolio, the number of documents not just planned, but also uploaded by the students to the portfolio and the estimation of the importance of the portfolio, so in the future it is very important to highlight the priority of information transfer.

Summary and Conclusion

Summing up, it could be state that the most important step to effective usage of eportfolio is trying to integrate it functionally to the educational system. If we would like to reach this, it is essential that the students get access to eportfolio as soon as possible, during the first semester. We must make the students understand the aim of creating eportfolio to which one of the best tools – according to the research – is integrating informing lectures given by the departments to the educational processes. The informing lectures must contain not just the aim of creating eportfolio, but also the aspects of evaluating, tasks and methods supporting reflective thinking and steps of responsible time and learning management. The latter's most important elements are careful planning, regular uploads of the finished lessons to the portfolio and widespread integration of tasks supporting metacognitive processes to the educational processes.

We should not forget the fact that students come to the university with different background (school type, time spent in education, etc.) and competencies (e.g. digital literacy) which – according to the research – influences the level of completing the tasks connected to eportfolio. As a possibility, students should be dealed with in a different way and we should keep them abreast.

The Thesis is Based on the Following Publications

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