

Actuality of Interactive E-Portfolio Systems

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Abstract: *In nowadays workspace which changes very fast, there is no doubt that the importance of creating, supporting and developing of appropriate educational promoting instruments is growing up. In this case e-portfolio systems play essential role, moreover, considering into account the topicality of lifelong learning issues. The aim of this paper is to provide brief overview of the study of powerful e-portfolio systems and render proposals to make them more effective. Pursuant to available research papers and other scientific resources, the author suggests further e-portfolios development and research directions.*

Key words: *E-portfolios, Portfolios, Interactivity, Knowledge, Education, Students, Learners.*

INTRODUCTION

The e-portfolio term is not quit new. Actually, painters, musicians, photographers and representatives of similar professions have been using portfolios by tens and even hundreds years. At the outset it became apparent as artists' self-promotions on exhibitions, masters' trade schools, autographic and later – also printed – papers, leaflets, magazines and books etc.

Of course, mentioned portfolios were as very simple attempts to make clear and get to know about authors of portfolios. They served just as a prelude to new type of these ones and a few tens years ago opened new era – e-portfolios era.

With digitalization of society we have received also possibility to modernize and develop portfolio systems, and find new ways for their implementation.

Many and many educational organizations get started to use actively e-portfolio systems for educational purposes to enhance training and education quality, facilitate learners' activities and motivation.

Some of them just suggest using of e-portfolios during study period, unlike others stipulate active use of e-portfolios and include them as a part of curriculum.

In today's world some employers require to manpower to use e-portfolios to provide evidences of their professional growth, especially in medical sector. Portfolios as evidence of continued professional development are widely used by nurses and midwives in Australia, where is an obligation to self-declare competence and fitness to practise when renewing annual practice certificates [3]. Portfolio use is also suggested as a means of continued professional development for qualified nurses and students in Israel [17], Ireland [16] and other countries.

Nowadays portfolios are not just a tool to show others what owner of particular e-portfolio has reached. It is not just a signboard which somebody can use to sell oneself. It might be used both for students and teachers: for students – to learn, improve learning outputs, assist fellow-students, make self-assessment and assessment of fellows; for teachers – to tutor learners and monitor their progress, make assessment of study process and provide necessary steps to improve curriculum.

It is crystal-clear that new approach in teaching and learning requires new e-portfolio systems which have to support these efforts.

Do we have such e-portfolio systems and e-platforms in reality and what we ought to do to improve the quality of education? To great extent this is the question about interactivity, true set up feedback and motivation. I will try to find answers on these questions in some respective research papers and solutions realized in practice.

TRAINING NEEDS ANALYSIS (TNA) AND ASSESSMENT OF E-PORTFOLIOS

E-portfolio usage is built on an opinion that adults are able to learn, organize and develop their own learning process themselves.

In other words, learning process both in e-learning and e-portfolio cases usually is more or less self-directed. Students are responsible for tasks given in e-learning courses (e-learning case) and completing his/her e-portfolio. There is relative freedom with task completion, often with minimal direction and guidelines [4].

It means also that majority of adults are able to learn independently in certain circumstances and certain areas, without particular assistance and the need for formalized tuition. Self-direction is a universal human attribute that most people possess to some extent [5].

On other hand, educators need to keep in mind necessity of learning quality, find the ways to improve learning process and work on other education developments. Among them I would emphasize a need of develop of the e-portfolio platforms, to make them more interactive, user-friendly and usable. This includes but not limited to implementation of various educational tasks, such as learning or training needs analysis (TNA). TNA acronym is well-known among militaries from NATO and PfP countries because it is an integral part of whole training system in armed forces. TNA is determinant to adult learning.

Training needs or else learning needs are a gap between competencies specified and the present level of development by the learner. The crucial moment in the assessment of the gap is learners own perception of the discrepancy between where they are now and where they want to be [9].

Some researchers suggest that learning need is a deficiency that detracts from person's well-being, thus, educational needs might be described as those which result from educational deficiency and which can be satisfied by a learning experience [6].

Accordingly, e-portfolio systems should help users meet these goals. Purposes of e-portfolios vary depending on aims but majority of them have points as follows [7]:

- Document learning.
- Demonstrate accomplishment of specified competencies or criteria.
- Identify strengths and areas for improvement.
- Showcase a career trajectory.
- Demonstrate how learning connects to practice outcomes.
- Plan transition into practice.
- Award financial merit.
- Empower students to take responsibility for their own learning.
- Provide a broader view of learning over time by linking experiences and skills to professional competency.
- Demonstrate knowledge that can be converted to academic credit.
- Serve as a starting point for planning and individualizing learning during orientation.
- Determine advanced placement or shortened orientation time and faster transition to the work force.
- Promote transition from academic to service setting by reviewing the new graduate's documented competencies and tailoring orientation programmes accordingly.

To fulfil that, students have to demonstrate evidences of their achievements and abilities. Namely, e-portfolios should be considered as an assessment tool in education process.

There are several criteria for assessing portfolio evidence [8]: credibility, transferability, dependability, confirmability, adequacy and appropriateness of data, verification with secondary informants, multiple routers, and audit trial.

In Fig.1 I present TNA and e-portfolio assessment system model which shows importance of proper planning and implementation of the studies.

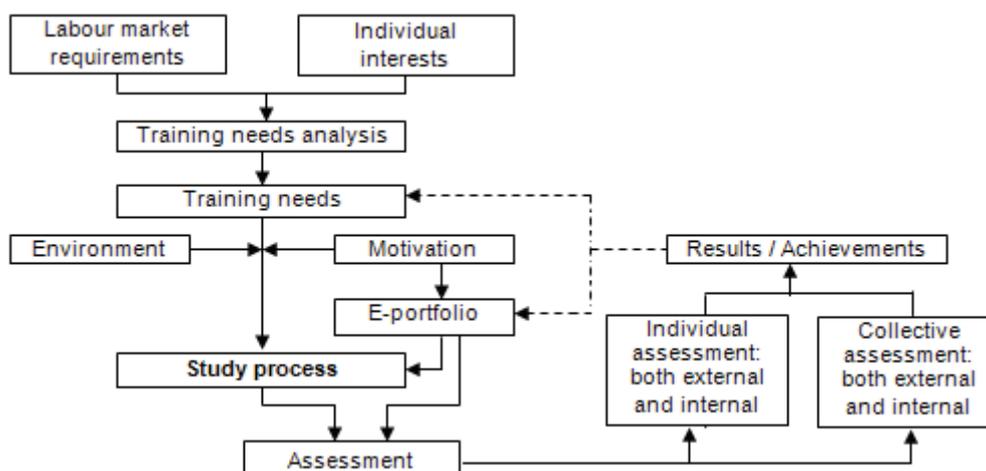


Fig.1. E-portfolio assessment system model as a part of study process

At the same time it is ascertained that there are no uniform approach in e-portfolio assessment area. Even more, in the studies of the use of portfolios to assess competence several researchers report that lack of uniformity in the preparation of assessors could affect how individuals carry out assessments, and they warned of the significant time investment required by both student and assessor [10]. Lack of uniformity of preparation among staff may affect assessment [11]. Thus, there is necessity to define and set up comprehensible, rationale and coherent guidelines. After that there will be necessity to implement these guidelines and start it with education and training of academic staff and other evaluators in this regard. And this education and training need discovers another vision and problem solving direction, another pole in TNA field. These considerations led to initiate a new research which will be able to solve risen questions.

Actually, there are various attempts to set up e-portfolio assessment criteria. Sometimes they are executed in the form of the table or evaluation blank and may include various criteria [12]: decision-making, communication effectiveness, originality in utilising knowledge base and methods of inquiry in practice, personal insight and so on.

There might be various e-portfolio evaluation levels number of which assessors may add or reduce. On one hand, increase number of the levels gives both teacher and student possibilities to assess precisely the value of student's e-portfolio, achievements, progress, track record, and allows outline further necessary steps to improve educational process, and develop individual e-portfolio. And this is what we bent on.

On other hand, more evaluation level numbers lead assessor to spend more time on evaluation process. The assessor will have to peruse the data onto student's e-portfolio and make a decision about the level. This is not only question about time which, no doubt, will increase. Decision making issues, complexity of assessment raise doubts about usability of such system. How many evaluation questions we should include in these forms, how many evaluation levels we ought to create, and what there will be criteria for these levels and how they will fulfil conditions of assessing? By increasing the number of the levels there will be also need for additional training of assessors. Besides, the development of more complex evaluation forms will require more detailed and complicated preparation of the forms. That problem description initiates another possible further research which could be inwrought with noted above research proposal regarding uniformity approach in e-portfolio assessment area.

I suppose that changes in e-portfolio assessment area may influence motivation of the students. To be satisfied that it would be capially to go into the problem and study also motivation issue.

From my point of view, all mention above assessment versions concede some risk of subjectivism. However, these assessment approaches first of all allow determining strong and weak points of students' e-portfolios and bringing to their notice to things which should develop and improve.

At the moment there is no answer on the question how to avert subjectivism in this area and what must be done. Thus, here is also a scope of research activities which may set e-portfolios' assessment house in order.

As I noted the assessment of students' e-portfolios helps to develop and improve their individual e-portfolios. Nevertheless, the question about assessment of students' e-portfolios during their studies I would leave open. Is it mandatory requirement to assess e-portfolios always or allow teachers arrive at a decision to accept the best education way from their prospective, making possible to students the use of e-portfolio and render help them when needed? It depends on the educational goals and academic staff capacity.

Again, I do not disclaim necessity of e-portfolios assessment by tutors. I insist on clear rules and guidelines in this area which need to be developed and established.

Sometimes it may be feasible to repose trust in fellow-students; in this case teacher will have more advisory role instead of supervision one. At the same time it is essential to empower students to present through e-portfolios cumulative evidence of their achievements to respective authorized committee to acknowledge gained qualifications and further confer new qualifications.

There could be also possible to develop flexible students' e-portfolio achievements assessment system instead of special committee noted in previous paragraph. I would propose to develop special system which will interact with data of achievements' evidences and automatically attest student's achievements and confer appropriate qualification (-s). There will be also necessity to create voluminous data base to meet requirements of new system and work properly.

Besides, proposed new generation system could be sophisticated with additional services to perfect and ensure educational goals.

CRITICAL THINKING NOTES

As I mentioned before, e-portfolio changes an accent from teacher's led educational process to self-directed one. Namely, in study process student's self-assessment and assessment made by peers (both noted assessments are internal ones) become as much important as assessment made by teacher (external assessment). At times internal assessment may be considered even more important and effective than external one. Especially this is actually in e-portfolio cases. That allows student to correct his work notes, and also individual training plan in cases when such plan is education organization's requirement to students or students are advised to develop and implement it. Academic staff and study department, for their part, have opportunity to improve study process, encourage and assist students when needed.

Noted above e-portfolios' assessment issues activate the need of appropriate e-portfolio systems which may allow students and tutors to interact to each other.

It means that students are able to take down in e-portfolio their own observations, minds, considerations, analysis and conclusions, and write in additional notes based on tutors and other students, peers, remarks, critical thinking notes and suggestion.

It also means that students ought to interact actively with course-mates: put forward proposals to other peers about their e-portfolios, documents and files, make necessary assessments of peers work as a part of professors' led assessment when it is required.

Reflection and critical thinking are effective tools to develop students' knowledge, among them using e-portfolio. Researchers and academics draw attention to reflection on evidence within the portfolio as an essential element [13].

The individual approach to reflection, which is ultimately about personal growth and development, is limited in its social contextual consideration and also lacks an overt action perspective [14]. Reflection should be considered as a part of critical thinking. Reflection ought to be displayed onto users' e-portfolios not only on general issues but also as suggestions on problem solving ways, vision, challenges, and actions.

Reflection, from my point of view, ought to be shown during whole study period instead of students' sometimes short flash activities during examination period or because of requirements of training programme. Students are encouraged not only to think critically but also make judgments about their own performance [2], thus allowing them to identify their own strengths and weaknesses [1].

Many researchers note that from reflection angle of view it is crucial to strengthen linear learning and probation on praxis. The effectiveness of reflection should be considered as a learning strategy for the development of professional competence [15].

Namely, using of reflection in e-portfolio cases may promote development of students' critical thinking.

Interactions, discussions, reflection on tutor's and peers' remarks and suggestions – that all are key factors to improve students' e-portfolios, learning results and competencies. To retrace my steps regarding assessment questions, I would insist not only on assessor's work in marking students' e-portfolio evaluation forms but also on activities in discussion forums and online assistance which ought to be activated before, during and after filling in assessment forms.

CONCLUSIONS AND FUTURE WORK

E-portfolio is excellent tool which facilitates education process, encourages and motivates learners, allows them to display their achievements. For teachers e-portfolio is the tool which empowers them to assess students' achievements, learning progress and give them necessary assistance.

There are a lot of e-portfolio definitions. To ensure clear view of e-portfolio aims I would define e-portfolio as the aggregate and cohesive account of individual's achievements and work-based results, prepared in electronic form, which includes evidences of person's professional competencies or learning outcomes, work or study activities and progress, knowledge development, proof of accomplishment and ability to achieve something, collaborate, communicate, critically think, analyze and invariably improve, as well as based on these evidences results of personal reflection, contemplation and action.

Education organizations have opportunity to take advantage of using e-portfolios. Nowadays many universities and schools utilize e-learning courses. An integrating of these e-courses with e-portfolio systems has great potential to improve education quality and learning outcomes.

There are also some unanswered issues which give wide scope of further researches. First of all, we have to define and set up comprehensible, rationale and coherent e-portfolio assessment guidelines to avert the lack of uniformity in the preparation of assessors. Besides, question about complexity levels of assessment forms remains still open. Next, there are so many findings about motivation. E-portfolio issues need for additional new researches in this area to answer on learners' motivation matters.

Unanswered remains also a question about services provided by e-portfolio systems. Do these services satisfy training needs of learners and instructors? There could be

developed special system which would interact with data of achievements' evidences and automatically attest learner's achievements and confer appropriate qualifications and competencies. This system may include voluminous data base to interact with e-portfolio users, education organizations, labour market, and Ministry of Education and Science. Proposed system could be enriched with additional services to perfect and ensure educational goals.

REFERENCES

- [1] Alexander, J. G., Craft, S. W. et al. (2002) The nursing portfolio: a reflection of a professional, *Journal of Continuing Education in Nursing*, 33(2): 55–9.
- [2] Chambers, M. A. (1998) Some issues in the assessment of clinical practice: a review of the literature, *Journal of Clinical Nursing*, 7(3): 201–8.
- [3] Emden, C., Hutt, D. et al. (2003) Exemplar. Portfolio learning/assessment in nursing and midwifery: an innovation in progress, *Contemporary Nurse*, 16(1–2): 124–32.
- [4] Dolan, G. (2003) Assessing student nurse clinical competency: will we ever get it right? *Journal of Clinical Nursing*, 12(1): 132-41.
- [5] Dolan, G., Fairbairn, G. et al. (2004) Is our student portfolio valued?, *Nurse Education Today*, 24(1): 4-13.
- [6] Gonczi, A. (1999) Competency-based assessment in the professions in Australia, *Assessment in Education*, 1:27-44.
- [7] Government of Republic of Ireland (1998) Report of the Commission of Nursing: A Blueprint for the Future. Dublin: The Stationery Office.
- [8] Guglielmino, J., Long, H.B. et al. (2004) Historical perspectives series: self-direction in learning in the United States, *International Journal of Self-Directed Learning*, 1(1): 1-18.
- [9] Griffin, C. (2001) The Development of Competencies for Registration. Dublin: Assessment of Competence Conference, An Bord Altranais.
- [10] Harris, S., Dolan, G. et al. (2001) Reflecting on the use of student portfolios, *Nurse Education Today*, 21(4):278-86.
- [11] Hull, C., Redfern, J. et al. (2005) Profiles and Portfolios: A Guide for Health and Social Care. Basigtoke: Pelgrave Macmillan.
- [12] Jasper, M. (2006) Portfolios and the use of evidence, in M.Jasper (ed.) *Professional Development, Reflection and Decision Making*, pp 154-183, Oxford: Blackwell Publishing.
- [13] Karlowicz, K.A. (2000) The value of student portfolios to evaluate undergraduate nursing programs, *Nurse Educator*, 25(2): 82-7.
- [14] Knowles, M.S. (1989) *The Adult Learner: A Neglected Species*. Houston, TX: Gulf Publishing Company.
- [15] Lettus, M.K., Moessner, P.H. et al. (2001) The clinical portfolio as an assessment tool, *Nursing Administration Quarterly*, 25(2): 74-9.
- [16] NCNM (2003) *Guidelines for Portfolio Development*. Dublin: National Council for the Professional Development of Nursing and Midwifery.
- [17] Rassin, M., Silner, D. et al. (2006) Departmental portfolio in nursing – an advanced instrument, *Nurse Education in Practice*, 6(1): 55–60.

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