
HOW CAN ePORTFOLIO MAKE SENSE FOR HIGHER EDUCATION? THE VIENNA UNIVERSITY EPORTFOLIO FRAMEWORK TAKING SHAPE

Brigitte Roemmer-Nosseck, Charlotte Zwiauer
(University of Vienna Centre for Teaching and Learning)

Abstract: In this paper we consider ePortfolio from the perspective of a higher education institution and mirror the potential stakeholders' scepticism towards an implementation. We develop the argument that ePortfolio bears the potential to play a prominent role as a tool for supporting the development of specific generic competencies, which recently gain much attention in the context of the Bologna-process, as a tool for presentation, and as the means for students to receive recognition of their work in an intra-university public. Based on this view, in the context of Vienna University we position ePortfolio as part of the eLearning strategy as a tool which takes eLearning to the curricular level and offers a potential impetus towards quality development. The ePortfolio framework takes into consideration groups of stakeholders and four dimensions we see as relevant for ePortfolio in a university context: competency planning, support of the individual learning process, representation, and infrastructure. We briefly report on the first five pilot projects and consider next steps.

Keywords: ePortfolio, eLearning, Bologna-Process, generic competencies

A Role for ePortfolio in Higher Education

Who has been waiting for ePortfolio in higher education? A provocation.

While to the ePortfolio community the value of ePortfolio seems to be self-evident, the proclamation "ePortfolio for all by 2010" at the ePortfolio 2006 in Oxford is greeted with a lack of understanding on the part of many potential beneficiaries and stakeholders.

The very purpose of the higher education system is to provide formal education and certify it by awarding degrees – why then, curriculum developers may ask, "provide support for informal and non-formal learning"¹? Furthermore, in accordance with one of the major goals of the Bologna-Process, a variety of instruments is currently being introduced with the sole purpose of making students' competencies gained in Higher Education more transparent and comparable, be it by describing curricula in terms of subject specific and generic competencies to be gained and ECTS, the diploma supplement, or EUROPASS (<http://www.europass.at/>). Isn't ePortfolio doubling these efforts?

What about the assumed beneficiaries of ePortfolio, the students? We can only give anecdotal evidence from our everyday practice within the university: Many students do not react enthusiastically to the idea of an ePortfolio at all, it is seen as threatening with additional work, existing structures such as a personal webspace may be doubled, the idea of a reflection of personal learning processes by some students is even considered an undue intrusion into personal space. Teachers' reactions – again, this is only anecdotal evidence - do not differ too much - most common seems the fear of an even higher workload, but regularly there is also a strong element of scepticism against being used as an instrument for the demands of the labour market.

However, the prevalent reaction to ePortfolio is "what is an ePortfolio and what is its aim"?

There is no such thing as a single notion of ePortfolio

Even though many students work part time, it is difficult to see ePortfolio as a tool for professional development in the context of tertiary education, because the majority of academic staff has been socialised within their scientific community. Also, from the point of view of a Humboldtian university with a strong tradition of oral examination and little standardised testing, it is hard to argue that ePortfolio as a tool for the assessment of learning is adding something qualitatively new. Thus two

¹ See challenge N^o 5 of the *challenges* addressed under <http://events.eife-l.org/ep2007/call/challenges>

potential purposes of ePortfolio remain: supporting the learning process and presentation of the learner's work.

Following Beetham (2004), the aim of a process portfolio is “enabling the learner to identify and reflect on their strengths and weaknesses, making use of formative feedback, and enabling professionals to support learners in ways appropriate to their achievements and preferences, by drawing on information in the profile” (Beetham, 2004, 4). Beetham sees ePortfolio in the context of pre-course diagnostics and learner-tracking, i.e. as a tool to tailor the learning experience to the learning preferences of the learner (see Beetham, 2004, 8f). This implies a tight control of the learner and implies a well defined goal of the learning process. Such ePortfolios - assuming that the work shown has been certified – can then easily be used as presentation portfolios in a transition phase or job applications.

Another view

We feel that this view of supporting the learning process is outcome oriented in a very narrow sense that does not fit with the learning processes expected of university students. We would therefore like to adopt a different perspective: Without “e”, portfolio-work is not a new idea, principles and elements root in educational progressivism²). With this tradition in mind and a view to the self-understanding of the university as a place of the production of new knowledge, we adopt a view to ePortfolio mainly as *process portfolio* as an instrument to support learners in reflecting and planning their learning processes. The university curriculum is open ended in the sense that study programmes must be flexible enough to continuously integrate current developments in the respective disciplines and fields; ideally they are providing an environment where knowledge is being shared as well as produced. The ePortfolio should be a place for the learner to develop their own voice in a scientific community, where they are expected to take responsibility for their own learning processes and assume an active attitude towards learning. Therefore our position is that rather than certifying predefined goals, ePortfolio is to be implemented into our university in a way that supports active and self-directed learning on the part of the student. This approach comes with the *production* of - rather than the assessment of ‘correct’ reception of - knowledge.

Context: Bologna-Process

The deliberations above cannot be considered separately from the reform of the higher education system and the Bologna-process. From the very beginning, a major aim of the Bologna-process was improving transparency and enabling mobility of students and teachers (see Bologna- declaration, 1999). Expressing curricula in terms of student workload (ECTS) and learning outcomes was (and still is) a major step to take from a teacher- to a student - centred approach.

In our point of view it is the necessity of specifying learning outcomes where ePortfolio offers potential benefits in the context of the Bologna-process and reform of higher education systems. Before we develop this notion further and discuss the implications, we would like to divert to a brief discussion on the concept of employability.

Generic Competencies and Employability

Specifically in the German speaking world with the dual education system and a strong tradition of apprenticeship as a central column of the education system, there is much debate about the notion of employability. Part of this discussion is rooted in a misunderstanding of the concept of a general employability as education for a defined job profile. This has caused debate whether it is the purpose of the university to educate students for specific jobs in the labour market (Kohler, 2005; Anz, 2006). An attempt to implement ePortfolio will be seen in the context.

We would like to point out that competencies relevant for employability are not a contaminant of the otherwise ‘pure’ academic curriculum. Their acquisition has always been supported within higher

² In the early 1920ies, Helen Parkhurst developed (influenced by the American progressive education) a plan that continues to be the structural foundation of the Dalton education, including amongst others the Assignment and the Laboratory in the sense of a prepared Learning Environment. The Dalton Plan as an educational concept is based on the following objectives: to adapt each student's program to her/his needs, to promote independence, to enhance the student's social skills. (Röhrs, 1991).

education, but neither explicitly nor in a systematic manner. It is in the universities own vital interest to attend to them in teaching and curriculum design as they are as crucial to further researchers' careers as they are to the labour market³⁾

Learning process and assessment of competencies

Learning outcomes come with the requirement of being assessable (Adam, 2004). Concerning generic competencies this results in two practical problems.

First, when taking a closer look at the generic competencies defined for the three Bologna cycles in the European Qualifications Framework (EQF Consultation document, 2005), one quickly realises that competencies like "Evaluate own learning and identify learning needs necessary to undertake further learning" or "Demonstrate transfer of theoretical and practical knowledge in creating solutions to problems" (EQF, 2005, 19) are typically not learned within a semester. However, this is the traditional unit of assessment of the Austrian university. Here ePortfolio offers a solution: it spans different contexts of learning as well as longer periods of time. As *process portfolio* spanning courses, modules, and eventually the curriculum with a special focus on generic competencies encompassing reflective skills, self-directed learning, and competency planning, ePortfolio is not only an instrument for fostering the individual development of the student, it may also give valuable feedback to the institution whether specific generic competencies have been acquired.

The second problem in the context of assessment is that some generic competencies elude formal assessment – partly because of established assessment structures which cannot be changed easily, partly in principle, we do not aim to develop ePortfolio towards formal assessment. Like Barrett (2005) we see a fundamental contradiction between the idea of ePortfolio as a tool to support the personal learning experience and individual development and assessing whether external requirements have been met. While Barrett (2005) suggests a partial integration with an institution's assessment management system, we propose that the ownership of the ePortfolio should be solely with the student. If ePortfolio work is an integral part of the curriculum and therefore part of the course work and accounted for with ECTS, it should merely be considered in terms of delivery, but not in terms of contents. First experiments with this approach have been successful (Logar et.al., 2007).

A role for ePortfolio in an intra-university community

The other purpose of ePortfolio we are interested in is that of presenting the owner's work. The opportunity to produce a specific view of the ePortfolio for a potential employer may provide a useful interface to the labour market. The main benefits we see in the context of a higher education institution is the opportunity to present ones work to an intra university public. Along side with community functionalities this limited public space provides a protected environment which has the potential to offer recognition to student work beyond the grade and the classroom. We suggest that ePortfolio is an instrument that supports valuing students not only as recipients of their teachers' knowledge, but as producers of their own works while documenting the development of their own voice in the scientific community.

From the institutional perspective this opens a role for ePortfolio as an excellent indicator for the students' general level. Thus, although ePortfolio is not seen in the context of formal assessment of the student, it may provide a valuable source of qualitative feedback which can be utilised for quality development in study programmes.

A Role for ePortfolio in Higher Education

In a nutshell, we see three potential purposes for ePortfolio for a higher education institution in the Humboldtian tradition: support of the individual learning process, especially with respect to the

³⁾ Learning outcomes relevant for employability, so-called *generic competencies*, encompass competencies such as will to learn and ability to learn self-directed, ability to work autonomously, ability to work in a team, reflective skills, written and oral communication skills, numeracy, etc. If one looks at the competencies named more closely, one can easily relate to the idea that they are necessary prerequisites for any professional work, be it in the labour market or in science and research (Yorke, 2004; Yorke and Knight, 2004; Kohler, 2005; Anz, 2006).

acquisition of generic competencies (*process*), the participation in the production of (not always new) knowledge (*presentation*) as the manifestation of the development of ones own voice within the university (*community*). We suggest a clearly defined position towards the many conceptualisations of ePortfolio as well as the aims connected with them and suggest that in higher education there definitely is a need for an instrument like portfolio-work, but not a market - yet?

ePortfolio Framework of Vienna University – a first concept

In the first part we took a view at ePortfolio from a general perspective of a higher education institution currently entering the Bologna process. In this second part we will focus on the specific organisational context of Vienna University and present a first draft of our ePortfolio framework.

Organisational Context

eLearning Strategy

When the University of Vienna began implementing its eLearning-strategy⁴ in 2004 the necessity of an eLearning implementation on a curricular level in the context of the pending Bologna process was already anticipated. While the overall goal of the strategy – quality development in teaching - remains, and qualification and support structures are continuously adapted, much of the environment has changed. The Bologna process, introducing modularisation and the definition of learning outcomes on the different levels of the curriculum, the autonomy of the university, and the introduction of management by objectives and performance indicators have led to deep organisational changes. At the same time the rise of Web 2.0 technologies, the availability of support for high quality open source products, the university's content strategy⁵, and the adaptation of the software administering teaching⁶ are causing technological changes and opening new opportunities. In this context we see ePortfolio as an instrument to pursue the implementation of eLearning in curricula and quality development within the larger context of the university's eLearning strategy (Roemmer-Nossek and Zwiauer, 2006).

National context of the ePortfolio framework

This initiative is linked with the national fnm-austria⁷ project “*Model cases for implementation strategies for integrated ePortfolio in tertiary education*”⁸, which receives funding by the Ministry for Science and Research (bm_wf). From the beginning of 2007, five universities have started implementing ePortfolio pilot projects. Additionally, each institution is focussing on a different topic, namely:

- training of ePortfolio counsellors (University of Graz),
- interfaces to other areas of education (Danube University Krems),
- competency planning (University of Klagenfurt),
- course design incorporating ePortfolio (University of Salzburg),
- curricular integration of ePortfolio (University of Vienna).

Taking into account the input of the partners we will derive a more generic framework from the ePortfolio framework, describe prototypical models for ePortfolio integration on a curricular level, and develop a guideline to a curricular integration of ePortfolio.

⁴ Details on the strategy project New Media in Teaching at Vienna University - *Neue Medien in der Lehre an der Universität Wien* (2004-2006) and the supplementary project eBologna – Innovation and Cooperation through New Media at Vienna University – *eBologna – Innovation und Kooperation durch Neue Medien and der Universität Wien* (2005-2006) can be found on <http://eLearningCenter.univie.ac.at>.

⁵ Establishment of a developers group for a Digital Asset Management System based on the open source software Fedora; the project is led by the University Library and implemented together with the Central Information Services, and the Centre for Teaching and Learning (http://damswiki.univie.ac.at/Main_Page).

⁶ <http://studieren.univie.ac.at/?id=951>

⁷ Forum New Media in Teaching Austria (<http://www.fnm-austria.at>)

⁸ Modellfälle für Implementierungsstrategien für integrierte ePortfolios im tertiären Bildungsbereich (2007-2008); funded by bm_wf

ePortfolio framework

In accordance with the quality expectations of the development plan “*Universität Wien 2010*”⁹ and the performance indicators of the Ministry of Science and Research, the following goals for an ePortfolio implementation on a curricular level were derived:

1. *The support of critical study phases*: ePortfolio is adopted in the first semester or year of studies, the transition phase from school to university, in order support orientation and aid the student in reflecting on his/her choice for a study programme. It may also be used to counsel students’ choice for specialisations and in the work on their thesis.
2. *Lowering drop-out rates*: Employing ePortfolio in study programmes with a disproportionately high number of drop-outs after the first year, support students with discontinuous learning biographies with informal acquisition of competencies.
3. *Increasing employability*, especially of the graduates of bachelor programmes: using ePortfolio as an instrument to build and reflect on generic competencies in curricula with a focus on employability.
4. *Supporting the research-teaching nexus*: Implement ePortfolio in research based¹⁰ study programmes with a large proportion of international students, joint degree programmes, and/or study programmes focussing on inquiry-based learning.

As with all projects, before starting the goal(s) should be made explicit and prioritised, both, concerning the possible goals of the institution and the faculty-specific ones. Given the diversity in concepts and aims present, we sought to provide orientation by representing the perspectives of stakeholders at three organisational levels: individual level, course or module level, and institutional level. For the Vienna University ePortfolio framework we consider four dimensions as relevant: competency planning, the learning process, knowledge representation, and infrastructure. Depending on their role, the stakeholders in the implementation will not consider all possible aspects of ePortfolio implementation to be relevant in their specific context (see table 1 for an overview).

The individual level concerns the learner, usually a student. Competency planning will take on different shapes in different disciplines, depending on local cultures, how hierarchical the study programme is organised, professional bodies outside the university (e.g. for law or psychology), etc. However, in all cases a personal stock taking and reflection will be a central component of portfolio work. The reflection of competencies acquired outside the university can be incorporated.

The individual learning process can be supported by fostering the student’s active construction of knowledge across different modules within a semester as well as over time, using ePortfolio as a tool for individual integration, contextualisation, and “sense making”. Where students are actively involved in the production of knowledge, either individually or with peers, supported by tutors or teachers, the resulting artefacts may be presented to the intra university public, thus documenting competencies acquired. Here is a natural interface to the content strategy – not only teachers and researchers, but also students’ work will be offered the opportunity to license and maintain their work in the digital assets management system (“Phaidra”¹¹).

⁹ “Universität Wien 2010“ (<http://www.univie.ac.at/rektorenteam/ug2002/entwicklungsplan.html>)

¹⁰ Research-based is used in the sense of Healey (2005).

¹¹ Phaidra-project: <http://www.ub.univie.ac.at/phaidra/>

Levels ePortfolio Dimensions	Individual	Course- and Module level	Institution
Competency planning	Meta-Reflecion - individual competency planning Reflecion of extra-	Implementation of Meta- Reflecion processes in courses and modules as a bracket to the curriculum	Enhancing Employability
Learning Processes	Active knowledge construction, contextualisation; Production of knowledge - individually - with peers	Integration of ePortfolio with existing blended learning concepts; Cooperative knowledge production on course and module level	Curricular quality development processes
Knowledge Representation	Documentation of competencies, representation of work	Content base - module level - curricular level	Interface to institutional research and teaching data- base (Phaidra-project)
Infrastructure	Interaction with ePortfolio- Software	Design of ePortfolio based on teaching- and learning concepts; Interface to LMS, etc.	Providing an ePortfolio tool; Interfaces to other central services: LMS, DAMS, etc.

Table. 1: ePortfolio Framework – levels and dimensions of the ePortfolio-implementation at Vienna University (description in the text.)

Stakeholders on the course- and module level are mainly the teachers, some study programmes already established module responsible in order to account for the new structural level of the Bologna-curricula. They are the potential implementers of meta-reflection processes into courses and modules to support competency planning and the integration of knowledge as a bracket to the curriculum. This does not only suggest cooperative knowledge production on course and module level on the side of the students but also coordination and cooperation on the side of teachers. The dimension of knowledge representation becomes important in the context of curricular content bases, which are currently being pioneered by some study programmes (again an interface to the Phaidra-project). The integration of ePortfolio with existing blended learning concepts also has an obvious, but conceptually non-trivial implication concerning infrastructure: the deeper the ePortfolio-integration into the curriculum the more important the question of interface to an eLearning environment (LMS, Wikis, Weblogs, etc.) becomes.

The third, the institutional level, compiles those stakeholders, who do not work with the ePortfolio directly, but utilise the results of an implementation on a different level. They are study programme directors or others concerned with curriculum development and running study programmes, eLearning representatives, executives at department, faculty, and university level. Their interests lie in using ePortfolio for enhancing employability and curricular quality development processes. They are responsible for the infrastructure and provision of interfaces to institution-wide IT-systems.

First Steps of Framework Implementation

A Brief note on the Pilot Projects

Under supervision of the Centre for Teaching and Learning five ePortfolio pilot projects have started at Vienna University between October 2006 and March 2007. The partners, faculties or study programmes from the Centre for Translation Studies, the Centre for Sports Sciences, and the Faculty for Philosophy and Educational Sciences, have been chosen on the grounds that they have developed and implemented eLearning in the course of the implementation of the general eLearning strategy.

Table 2 gives an overview concerning subject, faculty or centre, the Bologna-cycle in which ePortfolio is used and the main goal with respect to development plan and performance indicators. The software used for portfolio work in the pilot projects ranges from word-documents over Weblogs, the community tool elgg (<http://elgg.org>), to the commercial tool factline (<http://www.factline.com>). First experience shows that a simple tool like elgg, demanding little media competencies, provides a low barrier for acceptance of a tool. If coupled with feedback and based on trust between teacher and students, acceptance of ePortfolio by the students can be very high (for details see Logar et.al., 2007).

Low complexity of the software naturally comes with the trade-off that the functionalities of simple tools are easily exploited to a point where it hinders students' creativity in designing their personal space. A more complex tool demands much higher media competence of students and teachers, resulting in slow acceptance and a much greater focus on handling the technology¹²⁾

SUBJECT	FACULTY/CENTRE	BOLOGNA-CYCLE	GOALS
Translation Studies	Centre for Translation Studies	BA	Enhancement of employability
Translation Studies	Centre for Translation Studies	PhD	Support of critical study phases
Curriculum (working title) eTutors and Knowledge Experts Currently precursor: "Media Competencies Seminar" (Centre for Teaching and Learning)	Centre for Translation Studies, Faculty for Computer Science, Faculty for Philosophy and Educational Sciences, Faculty for Social Sciences	BA and MA	Enhancement of employability
Sports Sciences	Centre for Sports Sciences and University Sports		Forthcoming
MEi:CogSci	Faculty for Philosophy and Educational Sciences	MA	Supporting the research-teaching nexus

Table 2: Overview over first ePortfolio pilot projects.

Conclusions

In the context of a higher education institution we do see a prominent place for ePortfolio as a tool for supporting the development of specific generic competencies, as a tool for presentation, and as the means for students to receive recognition of their work in an intra-university public and the development of their own voice within a scientific community. In order to unfold this potential, we propose that portfolio-work ought to become an element of teaching and learning in regular curricula. Implicit in this view is a reluctance to automatically utilise ePortfolio as a life long portfolio. A learning space must allow for mistakes, even fallacies, and change of opinion. If students are to share the evidence of their personal growths with others, the environment – personally as well as technically – must provide a protected space. Until security and privacy issues have been clarified, we therefore object to the wide-spread opinion that a person's ePortfolio must be stored and available (to whom?) for a lifetime.

We see ePortfolio as a tool to take eLearning to the curricular level. This comes with a challenge: In order to reach beyond the small number of early adopters, integration with the universities eLearning environment is an obvious necessity. Current learning management systems (LMS) are closed systems which do not mirror the structures of the modularised Bologna curricula, should be supplemented by a

¹²⁾ A very informative study by Hornung-Prähauser et.al (2007) on different ePortfolio tools and potential curricular scenarios is available on the fnm-austria portal (<http://www.fnm-austria.at>) , parts are currently being translated into English

more open eLearning environment, which is scalable and integrate Web 2.0 technologies as well as ePortfolio functionalities.

From an institutional perspective we see a potentially prominent role for quality development. The implementation is still in its infancy, but first results are promising and interest in ePortfolio is growing. This is reflected by the fact that partners at the Faculties for Computer Science, Law, and Catholic Theology will begin with their ePortfolio pilots in October 2007.

References

1. Adam, Stephen. (2004) *Using Learning Outcomes. a Consideration of the Nature, Role, Application and Implications for European Education of Employing 'Learning Outcomes' at the Local, National and International Levels.* United Kingdom Bologna Seminar 1-2 July 2004, Heriot-Watt University (Edinburgh Conference Centre) Edinburgh. Scotland.
2. Anz, C. (2006). *Beschäftigungsfähigkeit – Vereinbarkeit Oder Konflikt Mit Wissenschaftsorientierung?* Handbuch Qualität In Der Lehre 1 00 04 06.
3. Barrett, H. C. (2005). Researching Electronic Portfolios and Learner Engagement. [Avaliable from: <http://www.electronicportfolios.com/reflect/whitepaper.pdf>].
4. Beetham, H. (2004). *e-Portfolios in Post-16 Learning in the UK: Developments, Issues and Opportunities.* A Report prepared for the JISC E-Learning and Pedagogy Strand of the JISC e-Learning Programme. [Avaliable from: http://www.jisc.ac.uk/uploaded_documents/eportfolio_ped.doc].
5. Healey, M. (2005). *Linking Research and Teaching Exploring Disciplinary Spaces and the Role of Inquiry-Based Learning.* In: Barnett, R. (Ed.), *Reshaping The University: New Relationships Between Research, Scholarship and Teaching*, Maidenhead: Mcgraw-Hill/Open University Press, pp. 30-42.
6. Hornung-Prähauser, V.; Geser, G.; Hilzensauer, W.; Schaffert, S. (2007). *Vorstudie Zu Didaktischen, Organisatorischen und Technologischen Grundlagen Von Eportfolios und Analyse Internationaler Beispiele und Erfahrungen Mit Eportfolio- Implementierungen An Der Hochschule.*[Avaliable from: <http://www.fnm-austria.at>].
7. Logar, S.; Peterson, B.; Roemmer-Nossek, B. (2007). *Media Competencies for Tutors – a Modularised Course Using Eportfolio. Using Eportfolio To Integrate A Modularised Course.* Proceedings of Eportfolio 2007, Maastricht October 16-19.
8. The European Commission: *European Qualifications Framework (Eqf).* [Avaliable from: http://ec.europa.eu/education/policies/2010/doc/consultation_eqf_en.pdf].
9. Röhrs, H. (1991). *Die Reformpädagogik. Ursprung und Verlauf Unter Internationalem Aspekt.* Weinheim 1991.
10. Roemmer-Nossek, B.; Zwiauer, C. (2006). *Ebologna und Die Curriculare Verankerung Von Elearning – Strategie Und Implementierung.* In: Usability Im Elearning & Elearning Strategien. Tagungsband zur 12. Fnma-Tagung an der Fachhochschule Vorarlberg, 8-9 Juni 2006.
11. Kohler, J. (2004). *Schlüsselkompetenzen und „Employability“.* Im: *Bologna-Prozess. Konferenz „Schlüsselkompetenzen: Schlüssel Zu Mehr (Aus-) Bildungsqualität und Beschäftigungsfähigkeit?* Heidelberg, 22-23 Januar 2004.

Author(s)

Mag. Brigitte Roemmer-Nossek (corresponding author)
Mag. Dr Charlotte Zwiauer
University of Vienna,
Centre for Teaching and Learning
Porzellangasse 33a
brigitte.roemmer-nossek@univie.ac.at