
FROM PILOTS TO A JOINT NATIONAL EPORTFOLIO STRATEGY IN THE FIELD OF AUSTRIAN HIGHER EDUCATIONAL INSTITUTIONS

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Introduction

This article deals with ePortfolio implementation beyond a single academic institution. In the past few years a small number of Austrian higher education institutions (HEI) have already started to experiment implementation of ePortfolios in single courses and study programmes. Approaches and concepts underlying these pilot projects have varied significantly, so do the first experiences made up to now. However, the organisational and technical implementation of ePortfolio causes widespread confusion among academic decision-makers, because ePortfolios mean different things depending upon one's point of view. ePortfolios are perceivable both as a traditional reform-pedagogical method for competence-based learning- resurrected by ICT- and as technical instrument archiving/publishing a learners biography very flexibly and clearly by using technologies of the "NET Generation" (Gibson 2006; Hornung-Prähauser, 2006; Aalderink/Veugelers, 2006). Moreover there are issues related with ePortfolios which can not be tackled by a single institution at all, because they require a national framework, e.g. questions of inter-institutional exchange of students, joint study programs etc.

Therefore the Forum New Media Austria (fnm-a), an association of all Austrian higher education institutions providing co-ordinated guidance and strategic advice on the sustainable use of ICT in higher education (funded by the Federal Ministry for Education, Science and Culture), initiated a national project on open ePortfolio issues being of sectoral interest. In the following we describe the objectives of the national initiative among Austria HEIs and how we approached the first step in the development of a national ePortfolio strategy.

Implementation of a sectoral ePortfolio working group for HEI

A national wide implementation in the HEI sector would target the following numbers of students and institutions:

- 200.000 students study at 21 universities (6 universities of art, 9 private universities) and 18 universities of applied science (30.000 students)

- 27.000 first-year students at universities, 8.000 at universities of applied science

The average duration of an enrolled study programme is at present 13 semesters at universities (6,5years) with a drop-out rate of almost 40% (Österreichische Hochschulstatistik, Statistik Austria, Wien 2006).

In order to find out the needs of Austrian students and HEIs, the fnm-a has suggested to install a working group among those universities most active in eLearning strategies in general and ePortfolio in particular. Active project partners are the University of Vienna, University of Graz, University of Salzburg, University of Applied Science Eisenstadt, University of Klagenfurt. Together with ePortfolio researchers, technological experts and pilot-users, the project plans the following activities:

- developing a common understanding of ePortfolios in academic settings,
- providing an overview of the international ePortfolio experiences as a basis for constructive debate and
- examining success critical "ePortfolio project killers" on the national scale.

Some of the above have been explored in international contextes already, some need to be examined in

the specific regional educational setting of Austrians HEI (Charlesworth, 2006; Beetham 2005)

- developing appropriate didactic models,
- developing students skills in personal study planning, reflection and self-evaluation,
- developing teachers skills in recognising the needs of learners and in giving guidance on educational pathways,
- acceptability and credibility of data,
- legal aspects and data security,
- effective interoperability and open standards,
- the evaluation of technical systems

Finally the project should help to create a set of typical models of ePortfolio in higher education study programmes as examples of established usage. The expected outputs of the project are recommendations and guidelines for practitioners enabling the successful integration of ePortfolios in single courses, but also in study programmes and furthermore to help institutions to define the requirements for an ePortfolio strategy (user requirements, requirements for administration, authentication, integration).

In presentations and discussions of the Austrian pilot-projects the following issues were reported to be most significant:

- Didactical framework and models: Only few projects are based on a well-developed didactical model, the majority was started in a rather trial-and-error approach.
- Curricular embedded ePortfolio: With one exception (University of A.S., Burgenland) current ePortfolio projects are not embedded in university curricula. This one of the biggest challenges which is worked on at the moment as part of the Bologna process.
- Data security and safety, long term archival storage: These topics are considered to be of central importance.
- One fundamental question coming up in the recent discussions turned out to be the degree of freedom given to the users of ePortfolios. What limitations shall be predetermined, how far shall the composition of the contents be regulated? On one hand ePortfolio understood as personal instrument controlled by the single learner seem to allow only few restrictions. On the other hand a higher degree of freedom means greater complexity and therefore clear and predefined models and processes are a necessary guidance for users.
- Tools and technical integration: Selection and technical implementation of software tools (unfortunately) play a very dominant role in current ePortfolio processes, taking away the focus from the development of didactical models. The Austrian Federal Ministry for Education, Science and Culture is discussing the idea of starting an evaluation of ePortfolio tools in order to facilitate those decision processes.
- Data security & safety, long-term storage: as mentioned above a fundamental aspect of the use of ePortfolios concerns legal matters and safety-related questions. Considering ePortfolios as a method reaching into highly personal domains of learners by exceeding borders of formal institutional learning, it is self-evident that these topics must become a fundamental part of a national ePortfolio strategy. Up to now as the main challenges which have to be faced concerned are access authorisation, long-term data storage & availability, authentication, inclusion (import?) of different data sources, data portability (standards).

Decision-support models for eLearning/ ePortfolio strategy stakeholders

In June 2006 Salzburg Research started to work for the fnma-project preparing basic information and orientation and assisting in developing a joint implementation strategy. In particular, the work encompassed search for international best-practise examples in sector of HEI, identification of success/failure criteria and state-of-the-art analysis of the ePortfolio software landscape (stand-alone tools, home-grown solutions, open source tools). Since the implementation of ePortfolio is most of all a change management agenda, we propose in the preparatory study-report a three-tier approach when having to decide about large-scale ePortfolio implementation. As the graphic below indicates

ePortfolio processes are influenced by three interrelated influential factors, ePortfolio didactics, eLearning/ICT readiness of the organisation and its environment (i.e. national legislation to IPR, data security) and technical solutions. However, the effort for implementing the portfolio processes may vary to the extent of how intensive students are expected to work with the portfolio processes.

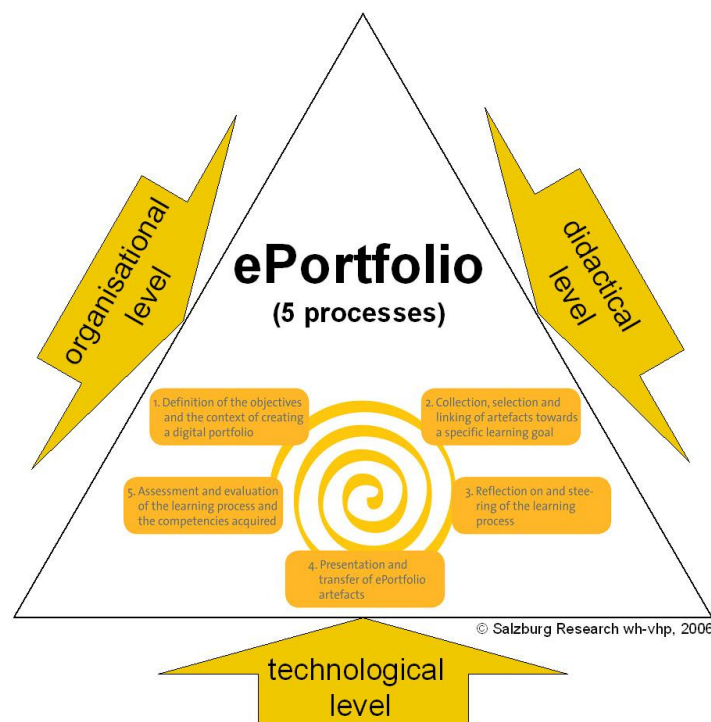


Table: Influential dimensions of a sectoral ePortfolio strategy

What does this mean in practise? In our view benefits and demands for ePortfolios change during a typical study and academic career path. In order to find out at what point of a curriculum suits best for ePortfolio work and what technical effort is needed, we propose three concrete scenarios in which Austrian students can derive highest benefit from using the ePortfolio as learning and study orientation method, supporting by a webbased application.

Scenario 1: Entering the university - ePortfolio as orientation method and tool

At an early stage in HEI, (and even for assessment reasons before entering the University), ePortfolios offer the possibility to organise a students life: learning targets, tutorials, assignments and assessments may be collected and stored by the learner, offering an overview on all the tasks which need to be carried out necessarily.

HEI in Austria have introduced this phase as the so called "Studieneingangsphase", which allows students in the first 6 months to get familiar with the objectives of the curriculum, the tasks and the methods. The reason behind may be as well considered as a mechanism to provide students from drop out at a later stage by offering them a holistic view on the study, the objectives and the workload.

The ePortfolio approach in this phase seems to support this idea, but further methods and workflows/processes have to be defined by the HEI and or curriculum developers.

Talking about the user requirements for this phase, we consider the usability as the most important issue here: Young students and learners need a tool, that provides all required information at a glance as well as a mechanism to collect and store the individual artefacts in a personal archive. Direct connection into a university ERP-System (for the list of the courses, the curricula and the schedule) is necessary as well as the comprehensible FAQs, Process descriptions and an installed helpdesk.

It seems, that quite a number of tools or tool-types support these processes for universities and learners, however a "perfect" tool for this process was not identified during the research.

Scenario 2: Producing (guided) scientific work - ePortfolio as learning assistance method and tool

Once a learner has made him/herself comfortable at the university, there is a great need for a tool, a process and a method for his/her research activities. A vast volume of information will be collected and annotated, multimedia objects are found, literature and seminar works are being produced.

The learner lives and works within a peer group, he/she is collecting and reflecting about the targets, he/she is in contact with tutors who provide feedback. All materials are stored in a personal archive, but from this time on, the amount of artefacts is growing exponentially. The learner needs a tool that assists him/her organising his/her own material, but at the same time offer the peers and tutors the possibility, to comment and provide feedback to their work. Furthermore, a thesis must be written in this stage, therefore the learner needs the possibility to search effectively through his/her resources, even if they are not all stored in one system.

The interoperability of the required tool shall offer full featured search but at the same time, the learner's privacy must be protected.

Technological requirements in this phase may well be served with a combination of Learning Management System with personal Learning Environment enhanced with „Social Software Components“. The latter one is needed, to support the process of reflection and communication for the purpose of individual research at HEI.

Scenario 3: Leaving the university – ePortfolio as documentation instrument of qualifications and/or as career guiding systems (alumni)

During long periods of studying, students have collected a vast amount of artefacts over time. They served for the process of learning, whereas in this phase these documents are needed for proving one's competence. This presentation stage can be seen as a flexible, digital collection of artefacts, describing the competence of the learners not only as a „Status Quo“, but also as a process documentation over time. Therefore the learner needs the possibility, to extract certain pieces of work and additionally the work history of how this piece was developed.

The technological requirements are enormous, because one needs the possibility to generate an overview over a product AND its (formation) process. Until now, no ePortfolio or Content Management system or approach could be identified that are implementing these requirements satisfactorily.

Besides the possibility of documenting the process of development from the learner's point of view, the tutor's point of view must also be taken into account: talking about the freedom for learners, to learn with a portfolio system individually, a method/process must be defined, where tutors get the possibility, to „evaluate“ the process of construction. One possibility thereof is sketched in [Wolf Hilzensauer, Veronika Hornung-Prähauser, and Sebastian Schaffert: [Requirements for Personal Development Planning in ePortfolios supported by Semantic Web Technology](#). In: I-Know 2006, Graz, Austria, September 2006], but further research and detailed evaluation is needed in order to find a suitable way to evaluate a learning process as a whole.

In the preparatory study, these three (didactical) scenarios will be outlined in detail. In the next step we propose a model matching the requirements of portfolio processes with the intensity of change that will be expected from the IT-infrastructure of a university. Although the “ePortfolio software scene” is still on the flux, we will scrutinize several tools (LMS/CMS and eportfolio stand-alone software tools) by this indicator. Such a matrix should help the Austrian decision-makers assessing the effort of organisational energy, budget and knowhow for tool-implementation.

Conclusion and further steps

The integration of ePortfolio concepts and systems into programmes of study can be seen as to sustain the objectives of the Bologna process – a core agenda of Austrian higher education institutions in 2006 – requiring competency focussed study processes. Thus the FNMA is continuing this work aimed at

contributing towards a common understanding about objectives and benefits of broad ePortfolio implementation to Austrian students and academic institutions and providing orientation about technical, legal and personal infrastructure needed thereof.

References:

1. BARRETT, H.C.; (2001), EPORTFOLIOS IN K-12 AND TEACHER EDUCATION, ISTE- PRESENTATION, ANCHORAGE.
[HTTP://ELECTRONICPORTFOLIOS.ORG/PORTFOLIOS/HOWTO/INDEX.HTML](http://ELECTRONICPORTFOLIOS.ORG/PORTFOLIOS/HOWTO/INDEX.HTML)
2. BEETHAM, H., (2005), E-PORTFOLIOS IN POST-16 LEARNING IN UK: DEVELOPMENTS, ISSUES AND OPPORTUNITIES. A REPORT PREPARED FOR THE JISC E-LEARNING AND PEDAGOGY STRAND OF THE JISC E-LEARNING PROGRAMME.
[HTTP://WWW.JISC.AC.UK/UPLOADED_DOCUMENTS/EPORTFOLIO_PED.DOC](http://WWW.JISC.AC.UK/UPLOADED_DOCUMENTS/EPORTFOLIO_PED.DOC)
3. CHARLESWORTH ANDREW AND HOME ANNA, 2005. STUDY TO EXPLORE THE LEGAL AND RECORDS MANAGEMENT ISSUES RELATING TO THE CONCEPT OF THE LIFELONG LEARNER RECORD: PHASE 1 OF THE LEGAL STUDY: PROGRESS REPORT – JANUARY 2005.
[[HTTP://WWW.JISC.AC.UK/INDEX.CFM?NAME=PROJECT_LEARNER_RECORDS_LEGAL_STUDY](http://WWW.JISC.AC.UK/INDEX.CFM?NAME=PROJECT_LEARNER_RECORDS_LEGAL_STUDY)]
4. COLLIGNON, S.; ET AL., (2005), NOTRE EUROPE. POLICY PAPER #12, THE LISBON STRATEGY AND THE OPEN METHOD OF CO-ORDINATION - 12 RECOMMENDATIONS FOR AN EFFECTIVE MULTI-LEVEL STRATEGY, [HTTP://WWW.NOTRE-EUROPE.ASSO.FR/ARTICLE.PHP3?ID_ARTICLE=706](http://WWW.NOTRE-EUROPE.ASSO.FR/ARTICLE.PHP3?ID_ARTICLE=706)
5. HORNUNG-PRÄHAUSER (EDIT.): MEDIENPÄDAGOGISCHE EPORTFOLIO FORUM TAGUNGSBAND 2005; SALZBURG RESEARCH EIGENDRUCK.[HTTP://WWW.EPORTFOLIO.SALZBURGRESEARCH.AT](http://WWW.EPORTFOLIO.SALZBURGRESEARCH.AT)
6. RAVET, S., (2005), EPORTFOLIO FOR A LEARNING SOCIETY, ELEARNING CONFERENCE, BRUSSELS, MAY 19-20 2005,
[HTTP://WWW.ELEARNINGCONFERENCE.ORG/KEY_SPEAKER/RAVET.HTM](http://WWW.ELEARNINGCONFERENCE.ORG/KEY_SPEAKER/RAVET.HTM)
7. GRANT SIMON, MARSHALL ADAM, STRIVENS JANET, ROGER CLARK, 2006: DEVELOPMENT ISSUES FOR PDP WITH EPORTFOLIO: WEB SERVICES AND SKILLS IN: JAFARI ALI., KAUFMANN CATHERINE, 2006 (EDT.): HANDBOOK OF RESEARCH ON EPORTFOLIOS, IDEA GROUP REFERENCE, 2006,LONDON, P. 146-157.

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