

Electronic Portfolio Be Aware of the Pedagogical Challenges and the Technology Struggle

Lessons learned in the past three years at the Universiteit van Amsterdam

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Abstract

In the past three years, the Universiteit van Amsterdam has had quite a bit of experience with the use of an electronic portfolio. In this paper I demonstrate how we have tried to work from the bottom up as well as from the top down, devoting special attention to the pedagogical challenges of the use of an electronic portfolio in the traditional university curriculum.

Keywords: E-portfolio, implementation, pedagogical issues

Introduction

Growing global interest in the use of the electronic portfolio in higher education

The Universiteit van Amsterdam has had experience with the use of an electronic portfolio since 2001. Now, in 2003-2004, more than 1,500 students are actually using an electronic portfolio in more than nine study programmes from the sciences to the humanities.

Universiteit van Amsterdam, an academic university

The Universiteit van Amsterdam is one of the largest universities in the Netherlands, with 22,000 students and 3,800 academic staff members. It is an urban university with numerous buildings widely distributed around the city and beyond the current city borders. Teaching and research take place at seven faculties: humanities, social and behavioural sciences, economics, law, sciences, medicine and dentistry. There are twenty-four teaching institutes and more than sixty-five study programmes for the Bachelor's degree. It is an academic university with traditional education: lectures, work groups and laboratory courses.

There has been increasing interest in the past three years in academic training and skills because the university has undergone a transformation to the concept of the Bachelor's and the Master's degree. It is precisely these academic skills

that appear to have been the inspiration for the introduction of an electronic portfolio. The Universiteit van Amsterdam does not have one central educational concept. The responsibility for the education is in the hands of the directors of the various educational institutes. This is a different situation than at the universities for professional education.

We have two types of universities in the Netherlands, academic universities and universities for professional education. At an academic university, the primary process is Research & Education. Research plays a very central role. At the university for professional education, the focus is on education and the future professional practice. Ample attention is devoted to competence and competence-based learning. The faculties have had more experience working with an electronic portfolio and there is often a specific educational concept at the foundation (see the paper by Wijnand Aalderink, *Digital Portfolio: Tool for Flexible Learning and Teaching in Competency Focused Higher Education*, EUNIS 2004).

The challenge at the Universiteit van Amsterdam is to introduce an electronic portfolio without a central educational concept in educational innovation projects and to see it as a pedagogical opportunity to focus more attention on flexible learning.

IT in Education Department

There is a central IT in Education Department at the Information Technology Centre of the Universiteit van Amsterdam. This department consists of educational technologists with a focus on the technology as well as the pedagogy of ICT in education. Starting in 2000, knowledge has been accumulated in the portfolio field, firstly as a result of developments in the U.S. (Educause 2000) and later as a result of developments at the university and elsewhere in the Netherlands and Europe.

In this paper, first I describe the bottom up developments and examine the support that is provided. Then I address the pedagogical challenges and technical difficulties. I go on from there to discuss the top down developments of the past

year. I close with a number of the lessons that have been learned.

Bottom up

It started small

Project support from IT in Education Department

In August 2001 the Institute for Interdisciplinary Education wanted to use an electronic portfolio for its special first year 'plus' programme and asked the IT in Education Department for its support. Although the Universiteit van Amsterdam still did not have a specific tool in mind, a pilot was launched in Blackboard to accumulate experience with the use of a portfolio in university-level education. Students were each given their own course and there were clear guidelines on how to build up a portfolio. This pilot was focused on a special first year plus programme for forty students who voluntarily participated in addition to their main study programme.

A second project, Media and Cultural Studies, began in January 2002. The intention was to start in September 2002 with a portfolio for all the 350 first-year students. A faculty project group was appointed and the IT in Education Department took part in the project as advisor. In addition to the focus on all the pedagogic aspects, there was now also a clear need to be able to use a more specific portfolio-oriented tool.

At around the same time, the university teachers training division also showed an interest in an electronic portfolio. This division had been working for years with a paper portfolio and now wanted to switch to the digital tool.

Growing demand

Community of practices for all the initiatives

To be able to have all the initiatives supported by the IT in Education Department, a community of practices was launched in the winter of 2002. It met every two months to share knowledge and know how. Use was made of an Intranet Web site to be able to also exchange documents such as manuals, assignments, instructions for tutors and evaluations. In 2002 there were six initiatives at the university that showed an interest in an electronic portfolio.

Portfolio study day for the university

Since there was clearly more interest at the Universiteit van Amsterdam, a study day was organized in April 2002 and the possibilities of a portfolio for academic education were illustrated. There were more than seventy interested participants and even more study programmes took part afterwards in the community of practices.

A portfolio tool is called for

The Universiteit van Amsterdam is a member of the Digital University (DU)¹ consortium that was founded in 2001. Ten universities work together in the field of IT in this consortium. There was a need at various universities for an electronic portfolio system. In mid-August 2001 there was no generic product available and a project was launched to build a DU portfolio system. The first pilots started operating with this system in September 2002. The Universiteit van Amsterdam started immediately with three study programmes and 500 students.

Sharp rise in interest

Once word got round that a system was going to be available, there was even more interest at the Universiteit van Amsterdam in using a portfolio. In September 2003 more than 1,500 students from nine study programmes got started. In 2004 2,500 to 3,000 students are expected to work with a portfolio.

University Web site on portfolio

To keep educational managers informed on the latest developments with regard to the digital portfolio, a Web site has been designed where everyone can read about the various pilots at the Universiteit van Amsterdam and the tool now being used. Announcements are posted about the information sessions and community of practices meetings.

To summarize, the IT in Education Department gives support and recommendations, acts as knowledge broker, and sees to knowledge dissemination and cooperation. It is also involved in co-developing the Digital University portfolio. It has become increasingly clear that the impact of a digital portfolio on education goes far beyond the introduction of an electronic learning environment. It touches directly upon the contents of the educational process, supervision and testing. The time has come for a top down approach. But first let me address the pedagogical challenges.

Pedagogical challenges

There have been any number of examples in the Netherlands of the use of the portfolio in education where teachers are trained or in education that is competence-oriented and prepares students for a clear professional practice.²

¹ The Digital University is a consortium of ten universities in the Netherlands. It focuses on the development and application of digital educational products and knowledge in higher education.

² Two study programmes at the Universiteit van Amsterdam already work with competences. The university teachers training division has been working for years with the competences for teachers we are

There has not been that much experience yet with the use of a portfolio in academic university education where students are trained for an academic career. The challenge for the IT in Education Department has been to get experience with a portfolio and at the same time make a contribution towards educational innovation.

In the Netherlands we distinguish three types of portfolio:

1. The *showcase portfolio*, a portfolio that is accessible for everyone and is more a show map
2. The *development portfolio*, a portfolio that shows work in progress and is frequently consulted by a tutor or supervisor
3. The *assessment portfolio*, a portfolio used in an assessment where documents are collected for the assessment.

At the Universiteit van Amsterdam, academic skills or study career planning are used as a stepping stone for a development portfolio. Usually they start with first-year students.

I describe two examples below of the relation between educational innovation and the portfolio.

Bachelor Media and Culture

Media and Culture is a relatively new study programme with 350 first-year students.

Reasons

There were various reasons to introduce a portfolio in 2002 at this study programme:

- There was recently a large inflow of first-year students, but many of them had no clear idea what the study programme entailed, what to expect from it and how it would meet with their wishes. Students also found it hard to get an idea of their study as a whole.
- As a result of the large numbers of students, lecturers no longer had a clear overview of the students, it had become more difficult to get to know the students and supervise them personally.
- As a result of the introduction of the Bachelor's and Master's stage, the curriculum had become more differentiated as regards the teaching aims and more attention was devoted to acquiring study skills and to the study attitude.
- Students should not be solely admitted to a Master's programme on the basis of a list of their grades, their development should also be considered.

already familiar with from other teachers training courses. And the dentistry study programme started this year with the introduction of a paper portfolio linked to a competence matrix. Since I would like to focus this presentation more on the link between an electronic portfolio and academic education, I don't go into this in detail here.

Belief

The intention is to use a portfolio as an instrument:

- For students to design their course of study and monitor their development
- For the teaching staff and study supervisors to follow the students' progress
- To change the curriculum and focus it more on the analytical application of theories that have been learned to actual practice than on simply reproducing information, and more on competence acquisition that just on knowledge transfer
- To get an impression of the students' development for evaluations, e.g. as to whether they should be admitted to the Master's stage.

Achievements

Management aspects

From the start there was a commitment on the part of the educational director and funding was made available for this project. The study programme started with a project team including a first-year study coordinator, two lecturers, an IT expert and an IT in Education expert. Extra staff was appointed to work on the curriculum contents and supervision. A faculty Web site was designed to create more commitment on the part of other teaching staff members and meetings were organized.

The team worked for half a year on the preparations and a year on the first out roll. The project went into the second year with a much smaller team, now for the second-year as well as the first-year curriculum. All the students took a training course in the DU tool and a special HTML course to be able to make even more use of their own *look and feel*. There was also a help desk.

Educational innovation

In the first instance it was only possible to devote attention to a portfolio in a few of the educational blocks in the first-year programme because the lecturers presenting these blocks were willing to work on this experiment.

Self-evaluation of academic skills

The academic year began with an academic skills block. Students were asked to give a brief self-evaluation of a number of skills: presenting a report, writing a paper, drawing up a research plan, and actively attending lectures. Based on a checklist for each of these skills, students can assess the extent to which they meet with the requirements. In the first instance, the main purpose of these self-evaluations is to give students insight into their own development.

Various roles in the study programme explained

In the past, first-year students often indicated that they found the material extremely abstract or said they did not see much of a link between the world as they perceived it and the

textbook theories. By making the theories more relevant to the students, the university hopes they will be able to gain insight more rapidly and learn to put this insight to practical use rather than just learning by heart. With this in mind, the portfolio for first-year students has been divided into three categories that coincide with the roles they play in the study programme, i.e. the *role of media user*, the *role of media expert* and the *role of student*. The reflections and evaluations discussed above are mainly related to their capacity as students. Via a number of assignments in various subjects in the first-year curriculum, students should be able to draw a distinction as well as see the connection between their role as media user and their role as media expert. (Use has been made in this connection of the experiences at the medical study programme of the University of Maastricht, see Driessen 2002).

Study career reflection assignments

Students were given three reflection assignments asking them to think about various topics such as the study programme they had chosen. It is clear from the evaluation that some students perceive it as positive if they are asked to think about themselves, their choice of study programme, and their further development. Students also perceive it as positive if they are asked to present themselves via the portfolio by way of an HTML page. Other students think the whole thing is a bit “childish”. In the spring, sessions were held for the first time with a study career supervisor on the basis of the reflections from the portfolio.

The study programme has now had two years of experience with the introduction of the portfolio. In particular, the matter of thinking within the various roles a student plays has been very popular with the students and teaching staff alike. Now there are other educational blocks where students are given assignments that touch upon the ideas referred to above. The introduction of the portfolio has stimulated a great deal of discussion about competence development and the possibilities for specifying competences in academic education.

The first successful implementation of a portfolio was at the media and culture study programme. Other study programmes have since followed suit.

Another example:

Bachelor Behaviour and Society

Behaviour and Society is a new Bachelor’s programme starting in Almere, a town not far from Amsterdam. Last year there was a first-year programme there, which is now supplemented by a three-year Bachelor’s programme.

Reasons

This new Bachelor’s programme, which is focused on multi- and inter-disciplinary education, started in September 2003. Students are given an extremely diverse programme, and this requires intensive supervision. There is a three-year study

career programme with the help of a tutor. The tutor monitors the student throughout the study career programme and they have a number of talks. The tutor is also a lecturer in the social science lab. This lab is once a week for the first year and once every two weeks for the second and third year.

Belief

A portfolio can become a basis for real meaningful study career supervision. It can also serve as a link between the various subjects and fields of the Bachelor’s programme. The study programme formulates knowledge aims and academic skills. Especially as regards academic skills, the portfolio would seem to be a good tool for making developments visible.

Achievements

Management aspects

Half a year in advance, a lecturer started elaborating the concept and making preparations for the assignments in conjunction with the educational director. A staff member at the IT in Education Department gave regular feedback. There was a project team that discussed the progress on a number of occasions. Starting in September, there has been a mutual supervision project throughout this year with the other two tutors at the study programme. All the tutors also keep a portfolio themselves to be able to monitor what the students do. Work was done on this project with a small group of students (16 of the 45 students) who knew in advance that they would be working on the project.

Educational innovation

Interdisciplinary education

From the start a new educational concept was worked with centring around the concept of inter-disciplinary cooperation. The first year of Behaviour and Society is an orientation year. The central focus is on introductions to the major disciplines and intellectual traditions of the social and behavioural sciences, i.e. anthropology, educational studies, pedagogical sciences, human geography and town and country planning, political science, psychology, social geography and sociology. It is not just a matter of unrelated lectures, they have to do with each other and there is a certain coherence to the whole programme. Students become acquainted with the perspectives and issues of various social and behavioural sciences. They learn what these fields have in common and what the differences are. In the second semester, students choose an introductory module at one of these Bachelor’s programmes at the Universiteit van Amsterdam.

Academic skills, analyses of strengths and weaknesses and tutor feedback

At the weekly social science lab, the literature is discussed that is referred to in the lectures, and students practice using the study and academic skills such as summarizing, writing and presenting. New instruments have been developed in this project such as analyses of strengths and weaknesses and feedback forms for tutors.

Study career reflection assignments

In addition to the introductory assignments, students write a résumé and a discussion portrait and are invited to keep a selection logbook to prepare for a selection in the second semester.

It is clear from the January 2004 evaluation that the getting-to-know-each other talks went much deeper as a result of the preparation with a résumé and a life story. The reflection assignments on their skills stimulated students to think about their difficulties and possibilities. The writing skills instructor noted that the production of these students was better than the production of students who had not worked with the reflection assignments.

Technology struggle

Due to the extremely short preparation period of one month, the option of giving all the students a course in Blackboard was used in the first pilot in 2001. The students felt it was a pity that they were not able to give their portfolio their own look and feel. It was not technically desirable at the time though for numerous portfolios to be inserted on the Blackboard server in addition to the thousands of educational modules. The students had been given guidelines on how and where to store the material that was gathered. In actual practice however, this meant a great deal of work for the instructors. They had to look at all the documents and could not quickly get an overview of the latest material.

Blackboard has witnessed considerable development in recent years, which has now made the product more suitable. However, the Blackboard Learning System is course-oriented and from this perspective, it is not a logical choice to use it as portfolio system. (Blackboard recently put a new product on the market, Blackboard Content System. A good portfolio module is part of this product.) When the Digital University wanted its DU portfolio system tested by users in August 2002, the Universiteit van Amsterdam cooperated with three study programmes and 500 students.

The DU portfolio system has the following features. It consists of two parts that make it possible to produce the *Archives* and the *Presentation*. In the Archives, the user collects material, information and reflection documents. In the Presentation the user can combine these Archives into a portfolio. The student can produce various portfolios for different purposes, and can invite guests and receive and manage reactions to the portfolio. A portfolio gives students an opportunity to collect their own material and texts in digital or physical files. This material makes the student's development visible. How this occurs depends on the purpose of the portfolio and can differ from one study programme to the next.

An important point of departure of the portfolio system is that as owner, the student himself is responsible for it. Supervisors and tutors play a supportive role in this connection. See <http://www.digitaalportfolio.nl>.

An evaluation was conducted after half a year and the tool appeared to be easy for students to use and was generally satisfactory for the Universiteit van Amsterdam education system. A separate template was developed at the media and culture study programme to give students a nice starting page. Many of them used it, although some did not. In the presentation we can show some examples

The DU system gave the impression of being extremely suitable for launching in the 2003-2004 season. In mid-September, however, the 1500 students turned out to be too much for the DU system to cope with and a new server had to be added. Due to an extremely unfortunate combination of circumstances, we were caught up in a spiral of problems at the Universiteit van Amsterdam that caused a great deal of user irritation. Students could not invite their tutors to view their *closed* portfolio before their scheduled progress talks. Fortunately the students were able to show their showcase to everyone. But the recurrent problems with the tool discouraged many users from using it and communication now went via email or post. All things considered, the question for the Universiteit van Amsterdam is now whether this tool is the most appropriate one. The market has since been overrun with new products.

The decision was made in February 2004 to start a technical study on the university-wide implementation to prepare for a final tool selection. In addition to an extensive analysis of various portfolio products, the national and international developments will be examined with the aim of describing the anticipated middle to long-term trends. Important developments include the EPICC (European Portfolio Initiatives Co-ordination Committee) and the progress at the IMS consortium in developing electronic portfolio systems.

University-wide top down implementation

It was already clear in the winter of 2003 that there was quite a sizable need for a digital portfolio at the Universiteit van Amsterdam. A draft implementation plan was drawn up at the IT in Education Department to show what university-wide implementation would entail. The situation was described for a two-year out roll with the purpose of having 40% of the 22,000 students work with an electronic portfolio by 2005. Due to the great financial investments this would involve, the decision was made to first discuss the matter with all the educational directors to enrol their commitment to the project. After their commitment was clear, a new Plan of Approach was written to prepare a Go - No Go decision for September 2004, so the University Board could then make a decision.

There are always factors other than the contents that help decide the success or failure of a project, and this is also the case with the digital portfolio. These factors can be viewed as pre-conditions for a successful implementation. As regards working with portfolios at the Universiteit van Amsterdam, a model is used that was developed by Rubens and Schmidt (*Working with an Electronic Portfolio*, J. van Tartwijk et al.,

October 2003). Van Tartwijk et al. note that whether working with a portfolio is worth the time and trouble depends on the embeddedness in the educational system and the extent to which the necessary pre-conditions are met with. The presence and the quality of the educational aims, the learning environment and the pre-conditions are largely decisive for the evaluation of the portfolio.

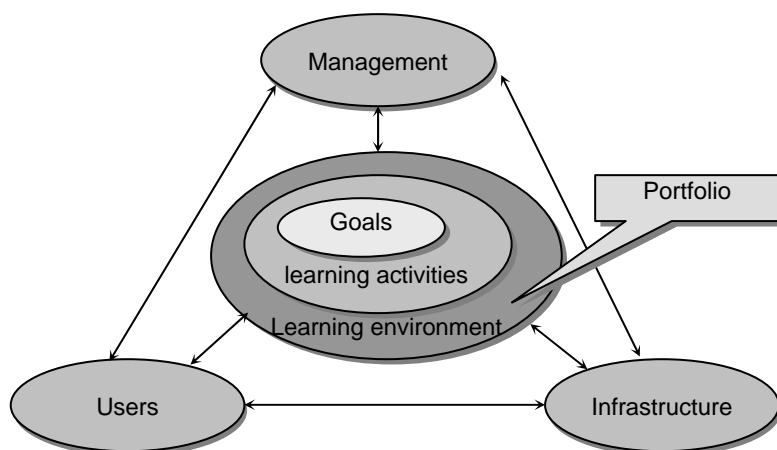


Figure 1: Portfolio and the attention areas by educational innovation (Van Tartwijk)

Based on all these preliminary experiences, in the fall of 2003 the university started a Go - No Go portfolio project to prepare for university-wide implementation. This implementation will be based on the Universiteit van Amsterdam three-pillar model (Fisser 2003) of pedagogy, management strategy and technology. The following aspects will be prepared:

- A teachers training programme for their new role as coach (instead of expert)
- Best practices with examples of assignment instructions and student portfolios to be shown on the university Web site
- A pedagogical support framework
- The appointment of a team of professionals to help with the new initiatives
- A format for the technology support at the university
- A proposal for a tool selection
- A financial overview of various hosting models
- A discussion with educational managers about the new challenges in educational innovation at a university
- A checklist of pre-conditions for the management of new initiatives.

At the EUNIS 2004 Conference we can show you the results of this project.

Lessons learned

At the end of these three years we can certainly speak of lessons learned and share with you a list of tips and helpful hints.

- Community of practices for project leaders
- Special portfolio Web site for everyone
- Special university study days
- Professionalization of the staff at the faculties
- Good connection with the curriculum
- Continuation throughout the year
- Assignments to be regularly shown or discussed
- Teachers need to learn their role of coach
- Good instructions for students
- Good coaching by tutors
- Project management (a team of various experts, good preparations, a good evaluation during the project and so on...)

Conclusion

I have demonstrated in this paper that we have gone from individual enthusiasm to an almost university-wide implementation. I also show that the implementation of an electronic portfolio is feasible within an educational concept that is not competence-based. It is clear to the Universiteit van Amsterdam that the key factors learning environment, management, infrastructure and users all need to be in balance. Even if the experiences of the past year do show that the tool that is used plays an extremely important role in user acceptance.

Author information

Marij Veugelers has worked at the IT in Education Department of the Information Technology Centre at the Universiteit van Amsterdam since 2000. She is a portfolio consultant, and she is responsible for educational implementation at the nine schools that have been using an e-portfolio since 2001. She started a community of practices and has been the portfolio implementation programme manager at the Universiteit van Amsterdam since 2003. The programme is based on three pillars, pedagogy, technology, and strategy. At the moment she is also project manager of the Digital University Portfolio Implementation Instruments Project. For SURF and ALT she organized and coached the expert meeting Portfolio UK-NL in April 2004. Her background is as an educational consultant, a career and student counsellor and a biologist.

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