

Employers' and students' perceptions of electronic employment portfolios

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Abstract

Portfolios are systematic and purposeful collections of an individual's work. Generally there are two types of portfolios: working portfolios, which are intended to be an all encompassing historical record and selection portfolios, where individual items are drawn together for a specific purpose. Portfolios are increasingly being used in educational settings for the purposes of learning and assessment, and in organizational contexts, for documenting professional accomplishment and competence as part of employment selection processes. In teacher preparation programs portfolios are commonly used to demonstrate teaching skills and expertise. Both working and selection portfolios have the potential to capture large amounts of data and as a result, are frequently created in electronic form. Electronic portfolios may potentially include text graphics, audio and video elements. This paper describes action research undertaken within in the School of Medical Sciences at RMIT University focusing on (a) the strengths, weaknesses, and impediments to the effective use by students of electronic portfolios as a means of systematic reflection and presentation of professional competence; and (b) prospective employers satisfaction with the structure and content of electronic portfolios as an aid in employment selection processes. Summative evaluations of tertiary physical education students' perceptions of using electronic portfolios were obtained via questionnaire, and employers' (i.e., principals and representatives from the Department of Education and Training) perceptions were investigated via a focus group interview. This paper will outline the generic electronic platform used, describe students' and employers' perceptions of the portfolio system, and provide suggestions for future development of electronic working and selection (i.e., employment) portfolios.

Employers' and students' perceptions of electronic employment portfolios

Background

Concern about the quality and consistency of the professional practice of beginning teachers has led to the development of standards of professional competence in various forms in many parts of the world (Melegano, 1999). Parallel to the development of beginning teacher competency standards has been a requirement within many pre-service university courses for undergraduates to document explicitly the development of their knowledge, skills, and abilities in relation to those standards (Melegano, 1999; Senne, 2002). Such documentation is increasingly in the form of a portfolio (Delandshere & Arens, 2003).

Although relatively new to education, portfolios have been used extensively by models, artists, photographers, architects, and journalists to document and promote their work. In general terms, a portfolio is a systematic and purposeful collection of work and achievement. There are two types of portfolios: working portfolios, which are intended to be an all encompassing historical record and selection portfolios, where individual items are drawn together for a specific purpose. Selection portfolios are increasingly being used in educational settings for the purposes of learning and assessment, and in organizational contexts, for documenting professional accomplishment and competence as part of employment selection processes.

In teacher preparation programs, portfolios are commonly used to demonstrate teaching skills and expertise. They have been adopted for a variety of reasons and purposes, and the perceptions of those purposes vary between teacher educators and students. Delandshere and Arens (2003) found, for example, that teacher educators considered portfolios useful in evaluating program outcomes, in developing student's understanding of concepts, and in finding employment. Students on the other hand thought that portfolios were useful in demonstrating and documenting their personal/professional growth.

Both working and selection portfolios have the potential to capture large amounts of data and as a result, are increasingly being created in electronic form. Electronic portfolios may potentially include text, graphics, audio, and video elements. Using an electronic medium for a portfolio has several advantages. Firstly, it is easier to keep and review large amounts of material in electronic form (Huba & Freed, 2000). Secondly, electronic portfolios are considered to be more flexible and dynamic, enabling artefacts to be presented in more integrated ways (Heath, 2002). Finally, electronic portfolios give individuals the opportunity to develop and demonstrate their technology skills (Heath, 2002).

In teaching, the primary purpose of the pre-service professional portfolio is to document in an authentic way the wide range of knowledge, skills, and experience that have been acquired through coursework, teaching placements, and community involvement. Melegano (1999) suggests that this primary reason is supported by several secondary reasons, including (a) helping teachers to grow professionally, (b) enabling teacher education institutions to determine the overall success of their teacher education programs, (c) providing compelling evidence of the acquisitions of skills in relation to agreed professional standards, and (d) enabling prospective teachers to demonstrate their competence to potential employers.

In Australia, the debate around the need for professional teaching standards has recently gained momentum with a number of professional bodies identifying professional competencies for beginning teachers. For instance, the Australian Council for Health, Physical Education and Recreation (ACHPER) (ACHPER Victorian Branch Inc., 2001) has recently developed beginner

teacher standards for health and physical education (HPE). These standards are a cornerstone of reform and development within the HPE profession in Australia. In particular, the profession is exploring how engagement with professional competencies and standards might be recognised for employment and promotional purposes within teaching (Macdonald & Beckett, 2002). Since professional portfolios necessitate the recording and evaluation of activities and processes that characterize a professional practice they provide an ideal medium through which beginning HPE teachers might demonstrate their engagement with professional competencies and standards and hence, improve their prospects of employment.

Context

In December 2001, the Division of Exercise Sciences, in the School of Medical Sciences at RMIT University, formed a Physical Education Action Research (PEAR) group. The aim of the PEAR project was to enhance the professional skills and employability of Bachelor of Applied Science (Physical Education) students by identifying discipline specific graduate capabilities, mapping those capabilities within the existing program, identifying areas for renewal, and embedding the identified capabilities into a renewed program.

Exploratory discussions with students in their final year of the Bachelor of Applied Science (Physical Education) about their needs in terms of making the transition from teacher training to teaching practice suggested that they wanted to “understand the dimensions [ACHPER competencies] comprehensively”, wanted something to “impress principals”, and “enhance job prospects”. They also indicated that they saw an electronic portfolio as a useful tool which they could “modify or alter as appropriate for jobs at the end of this year”, and a useful way to recall what they had done. Their views seemed to be supported by anecdotal evidence from principals that prospective teachers need a broad-based way to show their professional competence to employers and that a transcript of grades and number of hours spent on teaching rounds seems inadequate as measures of teaching skill.

The aim of the PEAR project was to implement a program-wide portfolio system within the Bachelor of Applied Science (Physical Education) at RMIT University. The system’s primary objective was to enhance student learning by bringing the program’s mission and goals to the forefront and facilitating development and documentation of graduate capabilities as students proceed through the program. Secondary objectives were to:

- ?? provide for program review;
- ?? satisfy industry professional competency standards; and
- ?? enhance student employment opportunities.

The portfolio system focussed on the development of a working portfolio integrated across the degree program and included several specific portfolios within the program. One of those specific portfolios was a final year employment portfolio. The intention was that the final selection portfolio would draw carefully considered evidence from the student’s working portfolio to present to prospective employers.

Students were asked to prepare an electronic portfolio to address five specific dimensions of teaching from the ACHPER Professional Competencies for Beginning Teachers of Secondary Physical Education Years 7 – 12 framework (ACHPER Victorian Branch Inc., 2001). The specific dimensions were professional responsibilities, content of teaching and learning, teaching practice, assessment and reporting of student learning, and interaction with the school and broader community. In addition, students’ electronic portfolios were required to contain a written cover letter and curriculum vitae in response to an advertisement for a hypothetical teaching position.

Students were instructed that the curriculum vitae was to clearly demonstrate the STAR principles (The Flinders University of South Australia, 1996); where students provided responses to the competences focusing on their previous experiences, behaviours, knowledge, skills, and abilities that are job related. The acronym STAR relates to Situation or Task where the student described specific situations that they were in or the task that they needed to accomplish; the Action they took; and the Results they achieved such as what happened, or what they accomplish or learnt.

Overall, the electronic portfolios were designed to demonstrate students current level of competence in relation to each specific dimension; provide behavioural examples of their competence; included elements of reflection on their teaching competence/development, and provide a strategic plan for future learning/development. The electronic portfolio was to be submitted on CD-ROM.

Evaluation of the PEAR project involved seeking answers to the following key questions about the development of student electronic portfolios:

- ?? What skills/competencies were developed as a result of the use of electronic portfolios by students?
- ?? Were the students, staff and prospective employers satisfied with the structure of the electronic portfolio system?
- ?? What were the strengths and weaknesses of the electronic portfolio?
 - o What were the impediments to the effective use?
- ?? What were the barriers to implementation?

Part A - Student questionnaire

Method

Participants

Thirty-three final year (4th year) physical education students enrolled in a Bachelor of Applied Science (Physical Education) at RMIT University who were training to become physical education teachers participated in the project.

Measure and procedure

A questionnaire was developed specifically for this segment of the project. The questionnaire covered five areas related to students' development of electronic portfolios during the year: 1) student's confidence in using information communications technology (ICT) prior and after developing their portfolio; 2) usefulness of the learning materials; 3) students' confidence and skill in preparing applications for employment; 4) perceptions of the links between the assignment and the world of work; 5) and recommendations for the process of developing electronic portfolios. Thirty-seven individual items were included in the questionnaire, the majority of which were closed questions. Twenty-five questions employed a 9-point Likert-type scale, nine questions were designed as 7-point semantic differential scales with bipolar adjectives such as Novice and Expert, and three open-ended questions were included in the questionnaire.

Students presented their electronic portfolio to staff and other students in a computer laboratory at the end of their final semester of studies. After their presentation students completed the questionnaire, concerning their perceptions of the process of developing the electronic portfolio and their perceptions of its utility as an assessment item and employment tool.

Results

ICT Skills: Students rated their expertise in using Word and PowerPoint and moving files between Drives on their computer highly before they built their electronic portfolio. On a seven-point scale of Novice (1) to Expert (7) students rated their expertise in using Word at 6.1 ± 1.0 , PowerPoint at 5.6 ± 1.2 , and moving documents between drives at 5.5 ± 1.5 . However, students rated their knowledge and ability to create a web page at 3.2 ± 2.0 . After completing and presenting their electronic portfolio students indicated that the process had assisted with the development of their general computer skills, their knowledge of how to create a web page and their ability to do so (see Table 1). Students were less certain that the process had enhanced their ability to scan documents for electronic display (Table 1). In response to an open-ended question about technical difficulties with the process, students said that they had difficulty accessing the document scanners, and they wanted more instruction on how to use document scanners, the computer package, and using hypertext links. One-third of students said that more hands-on time in the computer laboratory was needed.

Table 1

Students' perceptions of the extent to which preparation of the electronic portfolio assisted with the development of skills and/or knowledge on a 9-point scale (Little assistance - 1 to Great assistance - 9)

Portfolio elements in behavioural terms	Mean	SD
The ability to write cover letters	6.2	1.7
The ability to prepare a curriculum vitae	6.6	1.7
The ability to prepare responses to key selection criteria	6.9	1.3
Knowledge of the ACHPER professional competencies	7.6	1.0
General computer skills	6.4	1.8
Knowledge of how to create a web page	6.9	1.6
The ability to create a web page	6.7	1.6
The ability to scan documents for electronic display	4.6	2.5

Job Application Skills: Students felt very confident they could successfully address the elements of a job application after developing their electronic portfolio. On a 9-point scale, where 9 was extremely confident, students indicated they could write a cover letter (7.4 ± 1.0), prepare a curriculum vitae (7.7 ± 0.8), and respond to key selection criteria (7.0 ± 0.9). Students also indicated that the process of preparing the electronic portfolio had contributed significantly to developing these abilities (see Table 1). Students were also able to associate collection of evidence (artefacts) with an enhanced ability to respond to key selection criteria (Mean = 7.7, SD = 0.7 on a 9-point scale). Other reflections from the student group were that the electronic portfolios should be introduced earlier in the program to facilitate the collection of artefacts and to reinforce the need to collect evidence of professional competencies and development throughout the degree.

Indicative comments from the open-ended questions were:

I feel this should have been implemented earlier in the degree as it is a handy tool.

*Valuable tool, however I think it needs to be introduced earlier on in the course.
Maybe emphasizing [in] 1st year to start collecting and documenting artefacts...*

*Very useful, and better if developed over time and refined to have a polished
product at the end of 4th year.*

Students agreed with the statements that the “electronic portfolio would enhanced their employment prospects” (6.9 ? 1.3), that “electronic portfolios would be more useful in the future than they are now” (7.6 ? 1.0), and that “I will continue to develop my electronic portfolio in the future” (6.4 ? 1.8). All of these statements were measured on a 9-point Likert-type scale from Strongly Disagree (1) to Strongly Agree (9). In response to the open-ended question: “Any other comments you would like to make about electronic portfolios?” 25 of the 33 students said the assignment was useful and good preparation for job interviews. As one student wrote,

Very useful assignment. Not one to hand in, collect, then store away in a box. It is practical and very useful for interviews + job hunting.

Part B Employer Focus Group Interview

Method

Participants

The participants for the employers focus group interview were four principals or vice-principals, a representative of the Department of Education and Training, and three representatives from the Australian Council for Health, Physical Education, and Recreation.

Focus Group Structure and Procedures

The focus groups were based on the methods described by Krueger and Casey (2000). The purpose of the interviews was for stakeholders to provide their perspective of the strengths and weaknesses of the electronic portfolios presented, their satisfaction with the content and structure of the electronic portfolio, and the efficacy of the electronic portfolio as an employment application tool. Initially an icebreaking activity was conducted and the purpose of the study was explained to the participants. An electronic portfolio developed by one of the final year students was then shown to the employers group via data projection onto a large screen. The focus group interview had a principal mediator and a second mediator. The principal mediator played the key role in ensuring that the discussion proceeded and that questions, prompts, and probes (see Table 2) were covered. The second mediator raised questions, prompts or probes omitted by the principal mediator, ensured that everyone was included in the discussion, and provided an oral summary. The focus group interview was held at RMIT University and took 90 minutes to conduct. The interview was tape-recorded and later transcribed verbatim.

Data Analysis

Unabridged transcripts provided the basis for the analysis. Essentially, a long-table analysis (Krueger & Casey, 2000) was performed using a computer to help manage the data. Each quote or section of the transcript was categorised and coded before it was moved electronically to topic areas. The topic areas reflected the discussion guide at this stage. Subsequently, the authors

performed a content analysis of each topic and a thematic analysis across all questions independently. The aim was to identify typical responses among participants and to reveal diversity between respondents. To contribute to the verification and validation of the findings, the identified content and themes were examined for consensus, a process Patton (1990) describes as “analyst triangulation”.

Table 2

Focus group interview questioning route

Opening	Can you tell us who you are, where you work and what you enjoy doing most when your not working. (start tape recorder)
Introductory	What are your initial impressions of an electronic portfolio such as Sally’s? Your immediate reaction?
Transition	A central platform of the portfolio is authentic assessment. Linking students’ experiences at RMIT University with the world of work. To do this we ask the students to give behavioural examples – what they have done – and include examples, called artefacts, as evidence, rather than give their opinion. In what ways is this approach supported by the profession and employers?
Key Question	Focusing on the profession. How do you see this system as supporting the profession? Probe: In what ways would it would lead to improvements in teacher preparation?
Key Question	Thinking about a beginning teacher applying for a position in a school. Of this menu of possibilities, what would you want in an employment portfolio? Prompt: What would you leave for a working professional portfolio? Probe: How would a principal use a portfolio such as this? Prompt: What elements would a principal find useful for selection?
Key Question	In relation to applying for a job. What advantages and disadvantages do you see to this approach?
Ending Question	In what ways would you differentiate a working professional portfolio from an employment portfolio? Prompt: Does the working portfolio have a different audience, purpose Probe: Would you provide everything and let an employer decide for themselves the level of interest?
Ending Question	What advice would you give our program about future directions/improvements for the electronic portfolio system?

Results

When talking with the participants about their initial impressions of the electronic portfolio, they felt there was too much information in the portfolio for use as an initial screening device of applicants for a position. The employers went on to say that a two-tiered system would be

preferable, where the students collected evidence in a working portfolio and later selected-out the relevant examples to meet the key selection criteria of a particular school. The employers indicated the portfolio was an excellent resource for the students. As one employer indicated:

I think it's a great resource for the student to be able to call upon. But it needs to be a bit more encapsulated for us to use as an employment tool.

Employers were specifically asked: "Of this menu of possibilities, what would you want in an employment portfolio?" All the principals and vice-principals said they didn't want an electronic document, and they didn't want a portfolio. They wanted paper based curriculum vitae, response to key selection criteria and a cover letter. Typical comments included:

Maybe in 5 years time schools will be more comfortable with an electronic version but right now it is 3 hard copies

I really do like the concept of it and I think this is the way we are going in the profession. It's just that different people will jump on board at different stages. So there will be some people who will find this fantastic there will be some panels or schools that will be horrified if someone sent them a CD.

These views were qualified somewhat, when employers discussed applicants who had been short-listed. Participants said they might be more interested in examining portfolios of those short-listed. Employers mentioned that it is not uncommon for applicants to leave a folder with a selection panel at the end of an interview and they were somewhat supportive of applicants leaving an electronic portfolio on CD at this stage.

There was no doubt that employers valued and wanted an evidenced based application from prospective employees. There was lively discussion among the stakeholders about evidence being the missing link in many applications and concern that many young people applying for their first job in a school felt that "flowery" statements from a textbook were more highly valued by employers than actual experience. The employers felt that often beginning teachers downplayed their experiences at University and on their teaching rounds. For example:

It is phenomenally amazing how bad ... people are at addressing selection criteria. So that's why I think this idea of being able to show evidence is fantastic because that's what's missing. And quite often people will write pages and pages about how wonderful they are at doing things but to actually ... get out evidence for a criteria...[exasperation] You want it there, you want it under a heading, you want it dot pointed, you want examples so you can say yes, these are examples of how they've addressed the selection criteria or no they haven't.

Although employers were committed to an evidence based application process, all of the principals felt that first hand experience with the student teacher was an advantage. They were very favourably predisposed to employing students who had undertaken successful teaching rounds at their school. Principals said that if they couldn't have that first hand experience of student teachers then needed to rely on the responses to key selection criteria and referee reports. Indicative comments included:

You're going to look closely at the students that you had in your school because obviously they've got a start on the others because you've seen what they're like and how they perform.

The participants in the focus group could see great potential in an electronic portfolio CD to provide evidence of teaching expertise via video clips. Flowing from the discussion of wanting to see student teachers in school environments, participants said they would be enticed to look at an electronic portfolio CD if they were going to see something they could not see on paper. Employers explained that digital video clips of real teaching experiences, rather than stage-managed episodes, would be a very attractive feature of an electronic portfolio. Participants' comments included the following:

I'd be more enticed to open the CD up if I felt I was going to see something different than I could get from an interview or from the bits of paper So, if I saw a video of somebody with a class of kids, or working together with a team of teachers in some way, or working together with people in the community, that's the kind of thing that I would like to be able to draw on. Because you don't really have that facility in the interview. You get to a certain point, and then it's a bit of guesswork and you're relying on referees and that sort of thing.

Other advice from the focus group participants about the content and format of the electronic portfolio included having a site map and hypertext links that changed colour so you could track where you had been as a reader, ensuring the content was current and succinct, and having the portfolios available on the web. Several employers felt that being able to search for prospective employees on a website would be a helpful. A suggestion was made that final year students' electronic portfolios could be available on the University's website.

There was a diversity of views about the role of professional competencies in selection. School principals and vice-principals wanted their specific key selection criteria answered and were less concerned about the role the professional competencies might play. On the other hand, representatives from ACHPER wanted schools to use the competencies as a basis for developing their key selection criteria. There was unanimity of opinion that the professional competencies presented to the employers group were valuable for student development and a good way to document learning throughout a university degree. However, principals and vice-principals felt that the universities dealt with the competencies. As this exchange between a principal (P) and a representative from ACHPER (A) illustrates:

P: As a physical education graduate there would be an expectation that all these competencies would be fulfilled anyway. That would just be a given. That's what it's all about – the 4 years that you do here.

A: So in other words, you're relying on the course to meet the competencies

P: Absolutely, that's what I would presume

A: That's what you've got to watch, don't presume too much

A notable silence throughout the interview was the value of graduates having well-developed information communications technology skills. Only one participant mentioned the value of ICT skills:

It shows good use of learning technologies as well, which is also quite important and current. I'd be pretty impressed with anybody who could put together something like that..

Conclusion

This paper has begun to examine critically issues related to the use of portfolios in teacher education and beginning teacher transition management. The questions addressed in the paper have multiple perspectives and are linked to changes in practice associated with the adoption of emerging technologies. It is therefore difficult to provide definitive answers to questions surrounding the efficacy of electronic portfolios as both a means of systematic reflection and presentation of professional competence by students, and as an aid in teacher employment selection processes. What is clear is that students feel confident they could successfully address the elements of a job application through an electronic portfolio, and that employers believe that the potential of electronic portfolios to provide information about an applicant beyond what can be viewed on paper (e.g., video examples of teaching practice) is attractive, particularly for applicants who have been short-listed. However, employers doubt that examining perspective employees performance in relation to professional competencies is valuable to them, except as a source of evidence to address key selection criteria. These findings suggests that it is in interests of beginning teachers to document and present their knowledge, skills, and abilities in relation to professional standards of teaching practice in an electronic portfolio but to present that documented experience in traditional formats.

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The authors wish to acknowledge the professional input of Dr. Paul Sendziuk. The study was supported by an RMIT University, Faculty of Life Sciences Strategic Initiative Project grant.

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