Introduction to ePortfolios: Definition and characteristics

Radical changes in information and communication technologies (ICTs) in the past few years have had a direct impact on thinking about learning, pedagogy, theory and learning outcomes (Jimoyiannis 2012). Local and international trends in higher education emphasise the notion of student-centred and lifelong learning (Littlejohn, Beetham & Mcgill 2012), the development of graduate attributes (Bozalek & Watters 2014; Jacobs & Strydom 2014) and continuous professional development (Jimoyiannis 2012); and increased attention paid to the integration of ICTs (Jaffer, Ng’ambi & Czerniewicz 2007) calls for a critical investigation into learning technologies that could assist in these educational developments. Learning environments in the 21st century require authenticity, flexibility, less emphasis on memorising of content, more development of thinking and problem-solving skills and knowledge application (Rodgers, Runyon, Starrett & Von Holzen 2006). There is increasing interest in the process of maintaining an electronic portfolio (ePortfolio) and the role it can play in student learning. This interest has been driven by a greater awareness of student-centred and lifelong learning, graduate attributes and professional development, both locally and internationally.
What is an ePortfolio?
An ePortfolio is a ‘purposeful collection of information and digital artefacts that demonstrates
development or evidences learning outcomes, skills or competencies’ (Cotterill 2007). Some
researchers refer to an ePortfolio concept (Faulkner 2010), pedagogy and/or practice, rather than a
particular online system or tool. Although ePortfolios have been defined in various ways, the
emerging consensus is that the term encompasses both a process and a product (JISC 2014). Barrett
(2010), suggests that ePortfolio development is more than just the role of technology and a
particular product, but rather that emphasis should be placed on the learning process. From a
teaching and learning perspective, students use ePortfolios to engage in a learning process and
collect and organise forms of digital evidence (artefacts) that demonstrate learning outcomes, skills
and competencies. Creating an ePortfolio involves engaging in reflective practices that help to
support and synthesise formal and informal learning, professional development, graduate attributes
and lifelong learning.

Differences between paper-based portfolios and ePortfolios
EPortfolios are different to traditional, paper-based portfolios in that particular uses thereof
may include a range of affordances:

- ePortfolios can be more easily shared, stored and updated.
- They include a range of multimedia (embedded in text or hyperlinked).
- They can provide opportunities for reflective practices.
- They provide a potential for collaborative learning.
- They can promote immediate feedback.

It is important to note that the digital medium does not erase the challenges of paper-based
portfolios. For example, students still battle with reflective writing, how to select artefacts to
include as appropriate forms of evidence and how to provide constructive feedback to peers. Figure 1 illustrates the process of developing and using an ePortfolio.
Within the learning process users are expected to store digital resources and develop a digital archive of evidence which is selected for a particular purpose. Users motivate the inclusion of selected artefacts and support such selections with critical reflections. Essential to ePortfolio practice remains the collaborative process, where users give and receive feedback, in order to present to a particular audience. The ePortfolio (product) celebrates learning, serves as evidence of personal planning, demonstrates newly acquired skills or attributes or supplements a job application (Becta 2007).

Specific types of ePortfolios can be defined in part by their purpose (such as presentation, application, reflection, assessment and personal development planning), pedagogic design, level of structure (intrinsic or extrinsic), duration (episodic or lifelong) and other factors. Four types of ePortfolios are usually used in higher education:

- **Working portfolios**: These portfolios are also known as development or process portfolios, where students are supported in their planning, organisation and development of learning.

- **Assessment portfolios**: These portfolios provide teachers with an alternative way of assessing selected learning outcomes other than the standardised examinations, tests and assignments. Such portfolios could also be appropriate for final programme assessment.

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- **Presentation portfolios**: This type of portfolio is normally associated with a professional development portfolio, where students demonstrate their achievements, skills and competencies.

- **Hybrid portfolios**: It is rare in practice that portfolios are only used for one particular purpose. Often, teachers decide to combine the features of certain portfolios (Jimoyiannis 2012).

### Table 1: Forms of online showcasing often confused with ePortfolios

<table>
<thead>
<tr>
<th>Online repository</th>
<th>A decontextualised collection of student work presented as links to documents and other artefacts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Online CV</strong></td>
<td>A digital version of a CV in a traditional format or presented visually as an infographic</td>
</tr>
<tr>
<td><strong>LinkedIn</strong></td>
<td>A social networking service used for professional networking</td>
</tr>
<tr>
<td><strong>Blog (or weblog)</strong></td>
<td>A public online space featuring regularly updated posts or diary-like commentary in reverse chronological order, usually written in a conversational style. This form is often used for idea or field logs and reflective writing.</td>
</tr>
</tbody>
</table>

The forms of online showcasing listed in Table 1 are highly linked and may be considered as part of a broader ePortfolio ecology but they do not necessarily qualify as ePortfolios in their own right. Students may wish to share their ePortfolio as a link on LinkedIn, add their online CVs to their ePortfolio, etc. However, the boundaries between these are blurring, as blogging platforms may be appropriated to create ePortfolios, and LinkedIn and other existing tools are continually adding new features that make them more like ePortfolios.

**Reasons for ePortfolio adoption**

EPortfolios have multiple purposes, benefits and challenges, depending on their context of use. At programme level, an ePortfolio may be used to track student development and connections over time, across courses and programmes and to instil values of lifelong, self-directed learning and professional development. At course level, ePortfolios may be introduced under the auspices of professional benefit, formative and summative assessment, continuous professional development and/or career planning. In other spaces, such as teacher education, the main purpose may be reflective practice, as student teachers are encouraged to reflect on their learning.
In terms of assessment, both paper-based portfolios and ePortfolios can be used in many ways, depending on what assessment strategy is advocated and the learning theory implicit therein (for more on this, see Kooperberg 2014). However, in many spaces, the focus tends to be on the end product (destination) rather than the process (the journey). Where assessed, ePortfolios are still regarded as products for alternative assessment and have not yet fully entered the ‘mainstream’ in SA.

**Affordances**

EPortfolios take various forms and can be created using institutional platforms, open source applications (for example, Mahara) or free or paid commercial tools (for example, a blogging platform like Blogger or WordPress). Despite the choice of platform or tool, which may differ visually, the ePortfolio concept is shared across them. This shapes the affordances to a large extent, rather than by default of the technology.

**Integrating ePortfolios into learning practices**

Curricular integration and implementation that takes both technology and pedagogy into account is key to integrating ePortfolios into learning practices.

**Challenges associated with ePortfolio integration**

At both strategic and programme levels it remains imperative that role-players clearly conceptualise how ePortfolios could be sustainably integrated into existing and lifelong learning practices (Jimoyiannis 2012). From a pedagogical perspective, challenges are often associated with conceptualising the meaning of ‘reflection’ and the roles of users and academics within a particular learning environment (Jimoyiannis 2012). Student support should not only aim to develop reflective, self-assessment and meta-cognitive skills, but also appropriate digital literacy skills to sensibly utilise chosen platforms for these learning practices (Goldsmith 2007). In addition, attention should be paid to student motivational factors for successful integration of such learning practices (Tosh & Werdmuller 2004). Support initiatives should also be in place regarding the development of academics’ digital literacy skills. Appropriate training and support resources should be in place before students are introduced to ePortfolios.
Current international trends and regional examples of successful integration

Both internationally and locally, ePortfolios appear to be most commonly used in professional degrees (Education, Architecture, Health Sciences, Engineering, Graphic Design). This may be due to the presence of professional bodies and standards for quality assurance and accreditation, which are used to guide criteria for selecting and presenting evidence on an ePortfolio. Some of these fields also have a history of paper-based portfolios, and ePortfolios can be used to enhance the reflective or evidence-based learning and showcasing aspect of paper-based portfolios. More recently, there has been a trend towards career portfolios, encouraging professionalism through the showcase of employability and graduate attributes. Locally, paper-based portfolios still continue to be the norm in Higher Education Institutions (HEIs), with a few cases where ePortfolios are used.

Current use in South African contexts: A regional perspective

The uptake of the ePortfolio concept has been most common in professional degrees, thus mirroring international trends. The table below provides a selection of local HEIs and course contexts where ePortfolios are currently being used. The majority of these ePortfolio initiatives are ongoing. For many, 2015 will be the second or third year of ePortfolio integration. Details about the scale (number of students), support involved, choice of platform and rationale behind the integration and accompanying technological decisions are provided.

Table 2: Regional ePortfolio overview

<table>
<thead>
<tr>
<th>Short description of course context, faculty, name of SA HEI</th>
<th>Aim of ePortfolio integration</th>
<th>Number of students</th>
<th>Platform or tool used</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGDip e-Marketing course BUS4074S, Commerce Faculty, UCT</td>
<td>Students build their own personal online brand and publish small authentic learning tasks that can be viewed by industry partners.</td>
<td>94</td>
<td>WordPress</td>
</tr>
<tr>
<td>‘Online Learning Design’ PGDip EDN4501W, School of Education, UCT</td>
<td>Students present their learning design as an ePortfolio, bringing together different aspects of their design</td>
<td>20</td>
<td>Students may choose, but typically</td>
</tr>
</tbody>
</table>

Contributors to the table: Nicola Pallitt, Andrew Deacon, Michael Rowe; Eunice Ivala, Muthoni Kimani, Gina Mwoombola, Jolanda Morkel, Sonja Strydom
| Professional Ethics in Physiotherapy (PHT402), UWC | Students used blogs as learning portfolios, and aggregated content from around the web to support their claims of learning. | 56 undergraduate physio students and 28 qualified physiotherapists from around the world | Weebly, Google Sites, WordPress or Wix. |
| Architectural Technology, CPUT | Students develop portfolios of their projects, particularly of those done during their work placements. There is a multimedia dimension to the ePortfolio in architecture and design. | 60 undergraduate students | WordPress |
| Graphic Design, CPUT | As there is no institutional ePortfolio platform for CPUT, students built their own online presence to showcase their work and promote their skills to employers. They also archived their design work. | 10 Bachelor of Technology students (ePortfolio is not mandatory in the curriculum so this is student agency, although all students have to build a paper-based portfolio, which is exhibited for assessment at the end of their year of study) | Blogger |
| Industrial Psychology 152 (Occupational Therapy), Faculty of Economic and Management Sciences, Stellenbosch University | Students are encouraged to actively reflect on the content of the module and engage in the application of theory. They post their reflections (guided by posted questions) on the ePortfolio system, Mahara. Honours students then act as assessors and review the short reflections, posting comments and asking questions. | 300 students from various programmes, including industrial psychology, business management sciences, human resource management, philosophy, politics and economics | Mahara |
| PGCE, Faculty of Education, Stellenbosch University | A pilot group of students were equipped with tablets to use during their school practice visits in the third term. Students had to complete weekly reflections and also comment on each other’s posts (reflections) during their time in school. | 11 PGCE students | Blogger |
**Recommendations**

1. An appropriate technology-based intervention or platform should be selected.

2. Staff members with varied and specialised skills should actively participate in the ePortfolio programme.

3. A marketing initiative should be considered to promote the ePortfolio to students and other role players.

4. Appropriate support initiatives should be implemented to assist students with technical and reflective needs.

5. A detailed plan should be presented on how the particular programme will be evaluated in terms of implementation and impact (Reardon & Hartley, 2007).

**References**


**Resources for further reading**


Emerging opportunities for student affairs, New Directions for Student Services, 199 (pp. 31-42). Published online in Wiley InterScience (www.interscience.wiley.com)

Jacobs C & Strydom S (2014) From ‘Matie’ to citizen – graduate attributes as signature learning at Stellenbosch University. The Independent Journal of Teaching and Learning, 9, 63–74


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