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Making Use of Portfolios to Enhance Learning

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Abstract. Portfolios have been used in learning for a while. The value of the use of portfolios for learning has been well documented. For example, portfolios encourage students to reflect on their strengths, needs, errors, interests, challenges, and objectives, as well as, encourage interactive processes among students, teachers, and parents. Thus, it is value to strengthen the use of portfolio, for instance, by making use of appropriate pedagogical approaches and technological adoption. This research seeks to highlight the evolution of use of portfolios from paper based in academic year 2015/2016, to an electronic portfolio in the form of a word-processed document in academic year 2016/2017 to students creating e-portfolios in academic year 2017/2018. To capture this process prior to the academic year 2017/18 academic year students had been required to keep portfolios in the form of a word-processed document or paper based. The results show that the adoption of technology and improved pedagogical techniques enhanced students' educational performance and satisfaction. Therefore, this research advocates for the adoption of technologically-driven pedagogical philosophy to enhance the use of portfolios in learning and teaching.

Keywords: paper-based-portfolios, Microsoft word-based portfolios, electronic portfolios, enhancing learning, students' satisfaction

1 Introduction

Learning is increasingly demanding the skills set that meet the dynamic job demands. Thus, higher education institutions are being challenged to prepare students to effectively participate in the technologically advanced and fluid job market which demands the development of 'meta-competence' skills which will enable them to cope with what Barnett [4] characterises as 'supercomplexity'. This calls for transformative technology-mediated and imaginative pedagogies that create possibilities for experimental learning experiences. Technologies are being used in different dimensions to enhance learning and teaching as a paradigm shift from the view of students as consumers of knowledge to students as producers trajectory. In this research, we specifically focus on the utilisation of e-portfolios as a pedagogical, technological and outcomes-based tool. We argue that the potentialities of e-portfolios as learning, teaching and assessment instruments has not yet been sufficiently

explored. Scully et al [10] note that empirical evidence on the effectiveness of portfolios for learning and teaching remains sparse as research on the subject has 'either been purely theoretical in nature, or has focused on the technological platforms used to support learning portfolio construction'.

Portfolios have been widely used in educational contexts as both product and process of documenting learning [9]. Abrami and Barrett [1] noted the following possible advantages of portfolios;

- involve students in their learning (as a tool for reflection);
- allow students to increase their ability to self-evaluate;
- teach students to make choices;
- encourage students to better understand themselves and focus on their strengths;
- allow students to reflect on their procedures, strategies, and accomplishments so that they can improve and correct them and ultimately succeed;
- Promote feedback during the learning process, particularly during individual conferences;
- encourage students to reflect on their strengths, needs, errors, interests, challenges, and objectives;
- encourage interactive processes among students, teachers, and parents;
- shows student progress because it tracks performance over time;
- and they are used to assess competencies developed by students.

Electronic portfolios are used for different purposes, such as, process, showcase and assessment [1]. Electronic portfolios could be designed as process portfolios, that is, promoting how learning is conducted through structure and strategies. In essence, this way of using electronic portfolios makes them personal learning management tool as they enhance students' 'self-regulation, cognitive monitoring, and the development of a lifelong learning ethos as a habit of mind' [10]. Portfolios can help students in a number of ways including the following: It serves as

- a reflective device of the students' skills and knowledge as they swiftly evolve over time [12]
- It helps articulate student accomplishment over the duration of study [13].
- It prepares the student for possible questions and answers during interviews [14].

Students reflecting on the bigger picture in terms of their wider personal, professional and academic experiences and how this impacts their development as reflective practitioners is central to learning in university setting. This research seeks to highlight the evolution of use of portfolios from paper based in 2015/2016, to an electronic portfolio in the form of a word-processed document in 2016/2017 to students creating eportfolios in 2017/2018. To capture this process prior to the 2017/18 academic year students had been required to keep portfolios in the form of a word-processed document or paper based. Although this allowed for the development of ideas and evidence of reflection, students contributions and levels of engagement were somewhat limited by the medium. The following challenges were noted that lead to the adoption of e-portfolio.

- Students were limited to textual and graphical content in terms of the content they could add to their portfolios. External media could be linked to but felt removed from the portfolio itself.
- Students could not individualise their portfolios in design and layout.
- Students were not engaging significantly with the portfolio as reflective evidence or a platform through which to join parallels with other units or prior learning.
- A lack of content in the portfolios made it difficult to encourage deeper interactions and relationships to develop between Tutor's and Tutees whilst discussing portfolio content.

The adoption of technology to enhance portfolios could have the following aims;

- Increase quantity and depth of content in student portfolios by encouraging and enabling students to include a variety of media including textual, graphical and video content.
- Enable students to produce a more personalised portfolio with a bio section including an image representative of themselves, in addition to information on their interests and why they have chosen to study on the unit.
- Encourage students to draw connections to prior experiences and learning by using the portfolio on a regular basis as a reflective space.
- Develop relationships and interactivity between personal tutors and students/tutees. Tutors will give regular feedback by posting in the comments section on student's portfolios; this will also act as a platform to trigger more involved discussions during one to ones between Tutees and Tutors.

2 Methodology

Due to the requirements for students to have the ability to engage with multi-media content various e-portfolio platforms were considered. After evaluating the options available the team decided to use Weebly as the platform through which students would author their portfolios. Weebly was pursued for two reasons, firstly the tool uses a drag and drop mechanism easily allowing images, videos, audio and textual content to be added to student portfolios. Secondly, Weebly allowed students to add editors to their site which meant tutors could view student's portfolios without the content needing to be posted to the web. This solved any problems around plagiarism or any potential concerns student might have with their postings being in the public domain. In connection to this Weebly also allowed for students to export their portfolios as zip files which could then be uploaded as a submission within Moodle and date/time stamped for assessment purposes.

Initially staff created Weebly accounts and received some training on the use of the tool and then an introductory session was ran for all students to showcase the tool. Following on from this a series of video tutorials were created and embedded as a playlist on the Moodle unit area for students to work through to obtain all of the necessary skills to be able to use the tool. Throughout the unit time has been allocated

for students to share skills whilst working on their Weebly site within the fortnightly portfolio sessions.

3 Results

The introduction of electronic portfolios aimed to:

- Increase quantity and depth of content in student portfolios by encouraging and enabling students to include a variety of media including textual, graphical and video content.
- Enable students to produce a more personalised portfolio with a bio section including an image representative of themselves, in addition to information on their interests and why they have chosen to study on the unit.
- Encourage students to draw connections to prior experiences and learning by using the portfolio on a regular basis as a reflective space.
- Develop relationships and interactivity between personal tutors and students/tutees. Tutors will give regular feedback by posting in the comments section on student's portfolios; this will also act as a platform to trigger more involved discussions during one to ones between Tutees and Tutors.

As a result of student creating e-portfolios a number of positive experiences were noted:

- Increase in student engagement: Tutors noted that students generally much preferred adding content to their blog and the ability to personalise the appearance of their portfolio and that the e-portfolio allow students to flexibly work on their assignment online. Students noted the following e-portfolios benefits; 'with the e-portfolio, I can be creative with what I do and its different to the usual essays and presentations.' 'The best thing about my assignment for this module is that I get to create something I have never created before a blog. This is something I have never done before so it is quite new to me. I am able to put all my experiences and my personal information into this blog and explain what I have been doing in my current placement.'
- Students as reflective practitioners: by using a portfolio on a regular basis this allowed students to reflect on their wider knowledge from prior experiences and other units. Students enjoyed having their own space online in which to reflect, students stated in the December 2016 ISS:
- 'I like the idea of web-based reflection as it allows me to go over exactly what I have learnt in seminars and in other units. It also leaves room for me to apply my knowledge in an active way'.
- 'The module itself is interesting as an individual I like to reflect on my professional development and always am looking in ways to become a better nursery practitioner etc.'
- Portfolio feedback: Tutors liked having the ability to use the portfolio as a mechanism through which to gauge student progress, offer regular

formative/developmental feedback and forge stronger relationships with their Tutees. One Tutor commented:

- 'I like being able to make pages including one for feedback. Students can use these skills in the future'
- Overall student satisfaction in the module has gone up from 70% (in the 2016/17 academic year) to 94% this academic year as shown in Table 1. Student comments in the module reviews were constructive and supportive, for example shown below,
- 'learnt new methods of show casing my work and allowed me to build a portfolio of myself'
- Students develop a sense of both academic and social belonging: Students also appreciated the small class sizes (15 per tutor group) as these enabled them to get to know each other quickly and develop a sense of belonging. Most students commented that they felt confident participating in sessions without fear that they are being judged.

Table 1. Students' satisfaction and academic performance using different portfolios

Year	Number of students per class	Assessment Type	Student Satisfaction	Academic performance, Unit average mark	Number of students who failed the assignment and have had to resubmit.
2015/16	30	Essay	80%	63	15
2016/17	15	Portfolio Word-based	70%	58	11
2017/18	15	e-portfolio	94%	75	2

4 Discussion

This research emanated from years of observing students on our programme struggle to produce an end of year written assignment which sufficiently and appropriately reflects their personal, professional and academic development. This prompted us to reconsider our pedagogical philosophy in order to incorporate technologically-driven learning and teaching practice. We changed the assessment method for one first year module from essay to e-portfolio which enabled the bridging of a gap between traditional literacy model and new multimodal digital literacies which was crucial for preparing students to cope with the realities of the technologically advanced world. Turning to web-based e-portfolios was also a paradigm shift from the view of students as passive consumers of knowledge to students as producers' trajectory.

Our learning and teaching strategies provided opportunities for peer collaboration which helped our students to purposefully engage with their portfolio thereby strengthening their capacity to monitor and self-regulate their own performance. Tutors provided formative feedback on work-in-progress throughout the academic

year in order to enhance students' academic writing skills and chances of success. This process also offered tutors an in-depth knowledge of the student as a learner whilst opening up possibilities to proactively identify areas for improvement and individualise academic support. These predictive possibilities made it possible for tutors to anticipate and prevent possible problems before they occur or escalate. This was particularly important for our first-year students' transitioning from college to higher education. Shields [11] and Beard et al [5] note that higher education is not merely a cognitive endeavour, but also an emotional learning journey for students. As observed by Barnett [3], it is a journey of becoming that is characterised by relentless and interminable processes of change and transformation individuals go through as they intra-act with others and materials within a given context. As such, students starting their educational journeys often plunge into a state of uncertainty where learning, according to Barnett [3] 'calls for courage on the part of the learner and a will to leap into a kind of void'. It was therefore, worth considering what it meant to be a student during this perceived period of uncertainty and the changes they are likely to go through in their educational journey. Perhaps more importantly are ways in which digital technology tools could be utilised to capture students' learning processes in order to improve their educational experience, success and progression. If using an external e-portfolio tool it is important to be aware of the following potential obstacles to consider when implementing the tool:

- Ensure students have sufficient technical skills within the tool before there is a requirement to post content. Although in the most part having a video tutorial series was sufficient some students did comment that they would have like some face to face technical support for the tool. Having an introductory task for students to create an 'about me' page worked well as a starter exercise in the portfolios.
- Adding Tutors as editors so they could view student portfolios and add comments offline only seemed to work sporadically in sending email invitations to staff giving them access to students Weebly sites. Students logging into their own Weebly accounts on the Tutors device and then adding their Tutor as an editor resolved this.

5 Conclusion

This research explained how different portfolios have been used in different academic years namely paper based in academic year 2015/2016, to an electronic portfolio in the form of a word-processed document in academic year 2016/2017 to students creating e-portfolio's in academic year 2017/2018. Students' satisfaction and academic performance improved with the adoption of technology. Therefore, we recommend that technology be adopted in using portfolios. However, we emphasize that appropriate pedagogical techniques be used to fully enjoy the benefits of technology adoption.

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