INTEGRATING EPORTFOLIOS TO FACILITATE COLLABORATIVE LEARNING AND REFLECTION IN AN EAP CONTEXT

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Abstract

This article reports a study that examined the use of ePortfolios to facilitate collaborative learning and reflection in an undergraduate English for Academic Purposes (EAP) course at a university in New Zealand. The article offers new insights into the advantages of using a socio-cultural theoretical approach to the use of ePortfolios in an EAP context, with a particular focus on the assessments in the course. Drawing on online surveys, semi-structured interviews with students and ePortfolio analysis, the findings demonstrate that learners appreciate the affordances of ePortfolios and the collaborative nature of the assessment tasks in them.

Keywords: ePortfolios; collaboration; reflection; English for academic purposes (EAP)

1. Introduction

Portfolios have been used in education for decades. A portfolio is defined as "a systematic and selective collection of student work that has been assembled to demonstrate the student's motivation, academic growth, and level of achievement" (Norton & Wiburg, 1998, p. 237).

Before the digital age, lecturers and students used paper-based portfolio systems in the form of files, folders, drawings and printed pictures to keep a record of their learning and achievements. However, this method has limitations in updating, sharing and storing portfolio collections. With electronic portfolios (ePortfolios), users can represent information in multiple formats and access their ePortfolios anywhere, anytime. Users can also share individual pages or the whole portfolio collection with anyone for a specified period. Thus, ePortfolios allow

learners to manage their own learning (Beckers, Dolmans & Van Merriënboer, 2016), keep track of their progress and actively engage in the learning process (Baturay, 2015).

There are a variety of purposes for incorporating ePortfolios in education: (a) to collect evidence of work/skills/achievements and goals, (b) to reflect on one's work and learning, and (c) to share one's work with different audiences and receive feedback. Accordingly, the type of ePortfolio depends on its purpose. Evidence portfolios, assessment portfolios, learning portfolios, academic portfolios, reflective portfolios and career portfolios are common types of ePortfolios. One crucial aspect of a good portfolio is that it is not simply concerned with focusing on the end product but also aims to get students to reflect on the learning process or the learning task.

This article describes the implementation and use of ePortfolios in a third-year credit-bearing English for Academic Purposes (EAP) course at a university in New Zealand. The main purpose of EAP courses is for students who are Speakers of Other Languages (SPOLs) to continue to learn the linguistically, disciplinary, and culturally suitable practices needed to study through the medium of English. At the University where the research was conducted, students who were SPOLs could choose to do up to three EAP courses (which focused on the four skills) as electives towards their undergraduate degree. The ePortfolio in the project elaborated upon here had a combined purpose of its use as an assessment portfolio and a learning portfolio where students engaged in collaborative and reflective learning.

The article begins with a literature review that explores the notion of a socio-cultural theoretical approach and the use of ePortfolios in English as a Second Language (ESL) and EAP contexts. A discussion of the methodology, process and implementation details follows this. The article then covers the key findings and discusses how various strategies, such as learning and assessment design and support processes, helped facilitate collaboration and reflection.

2. Literature review

Three central aspects relevant to the research will be discussed in this literature review: i) pivotal elements to a socio-cultural theoretical (SCT) approach, (ii) justification of the use of ePortfolios and the value they can bring to the learning environment and (iii) the use of ePortfolios and related aspects in education and ESL contexts.

2.1. Socio-cultural nature of learning with ePortfolios

The research described here is strongly supported by a SCT framework. The origin of the SCT approach to learning lies in the seminal work of Vygotsky (1978). The idea of socially constructed knowledge, whereby we create meaning and make sense of our experiences collaboratively, is a core tenet of the SCT approach (Vygotsky, 1978). Introducing the idea of the Zone of Proximal Development (ZPD), he described it as the distance between what we can learn alone and what we can learn with the help of capable peers or significant others acting as mentors or facilitators of learning. Aligned with the idea of ZPD, ePortfolios have the ability to facilitate collaborative learning, where students share their work in portfolios, provide feedback to peers and learn from one another.

There is a wide body of research literature on the socio-cultural nature of language learning using ePortfolios and their advantages for learners (Gánem-Gutiérrez, 2018; Lantolf & Poehner, 2014; Lantolf & Thorne, 2006; Van Lier, 2004). Some of the benefits postulated by these researchers include the motivation for collaborative activity, learner engagement in dynamic learning activities and reflection opportunities. While using ePortfolios, learners continuously engage in a dynamic learning process by updating their portfolios with new evidence of their learning or assessment outputs. Active learning occurs while planning, creating, choosing and uploading evidence of learning, working with classmates, and reflecting on learning experiences. In this learner-centred process, students construct knowledge and meaning individually and socially based on their prior knowledge (Lantolf & Thorne, 2006; Van Lier, 2004).

In addition, Gánem-Gutiérrez (2018) elaborated on the collaborative activity potential of using a virtual digital world in language learning which is strongly underpinned by a SCT approach. Aligning with the SCT approach, the ePortfolio use in the study reported here encouraged collaboration, socially constructed knowledge and active learning.

2.2. ePortfolios in education and ESL contexts

A considerable amount of literature has been published on the use of ePortfolios in education (Beckers et al., 2016; Ferns & Zegwaard, 2014; Pink, Cadbury & Stanton, 2008). ePortfolios are intended to capture student progress and enable self-reflection on strengths and gaps in learning (Ferns & Zegwaard, 2014). In addition, ePortfolios improve engagement with reflective learning, and the reflective learning templates used with ePortfolios provide a useful framework for documenting the evidence of student learning (Pink et al., 2008).

Over the last couple of decades, a substantial body of literature on the use of ePortfolios in tertiary ESL environments has been published (Alawadat, 2013; Chau, 2011; Kessler & Bikowski, 2010; Yastibas & Yastibas, 2015). This suggests that ePortfolios are not new to the 21st century. However, what is new is the way ePortfolios are used as the nature of learning continues to change.

The literature on the use of ePortfolios in ESL learning relates largely to the development of writing skills. For example, Aygün and Aydin (2016) published a group of succinct articles on the use of ePortfolios to support writing development, covering such aspects as the literature on the formative writing process. Other studies on the use of ePortfolios focused on the facilitation of self-regulated learning, which is related to independent learning (Chau, 2011), the development of self-reflection (Alawadat, 2013), the development of self-regulated learning through assessments in English language teaching (Yastibas & Yastibas, 2015), and the use of an ePortfolio as a corrective platform for improving writing performance (Saeedi & Meihami, 2015).

Taking the above research into account, there appears to be a paucity of research focusing on the use of ePortfolios for collaborative learning and reflection in the EAP tertiary context. In particular, in Australia and New Zealand, very few recent studies have focused on the use of ePortfolios for collaboration or reflection. One study conducted in New Zealand focused on how an online learning environment can shape and reshape learner autonomy (Zhong, 2018). This study reported that a previously shy learner started to collaborate more in the online space and acknowledged the affordances of the online space. While this study mentions ePortfolio use in the study, the key focus of the article is learner autonomy. Another study by Zhong (2021) focused on building collaboration in online spaces to promote group autonomy. However, ePortfolios were not used for collaboration or reflection in the context of this research. Peer-moderated online discussions were used in this research.

Outside of this region, a more recent study conducted by Marin (2020) focused on the use of ePortfolios for researched-based learning (RBL) and investigated the potential of group e-Portfolio blog use. This study was conducted during an on-site course on theories and models of instructional design (ID) in the Master of Educational Science program at a German University. The findings show the possibilities and challenges of using ePortfolios based on blogs for RBL processes.

Another study conducted by Kessler et al. (2010) at a Mexican university explored students' collaborative autonomous language learning abilities. It should be noted that Kessler et al. (2010) looked at students' collaborative language learning skills in a wiki space, and they

did not use ePortfolios in their study. However, there are important implications that are relevant to the current study, which are listed below. Kessler et al. (2010, p. 49) highlighted three core requirements for learners to develop autonomously within a collaborative language learning environment:

1) the ability to use language independently to contribute personal meanings as a collaborative member of a group;

2) the ability to use appropriate strategies for communicating as a collaborative member of a group; and

3) the willingness to demonstrate these abilities within the group.

With the focus on collaboration, these suggestions by Kessler et al. (2010) supported the project reported here. Their findings have ramifications for how technological tools can be used to enhance language learning and assessment, and an ePortfolio is an excellent avenue to explore collaboration in an ESL/EAP learning environment.

It has been argued that ePortfolios provide excellent opportunities for students to develop reflection and learner autonomy (Doig et al., 2006). Reflection on work in portfolios enables students to see their progress over time and take advantage of opportunities to improve in the future. Taking the positive findings of Doig et al. (2006) into account, and to facilitate reflective writing skills in the study reported in this article, we provided several direct opportunities for students to focus on reflection in their assignments. Prompt questions are a common way to get students to reflect and make sense of their learning. Students in this study were provided with guided reflection question prompts. The questions focused on aspects of self-reflection and peer-reflection, as follows:

1) Self-reflection

Personal assumptions

How active you are as a reader

Strategies used in reading and writing and best fit

Cohesive devices used and effectiveness

Oral presentation delivery

2) Peer-reflection

Comparison between self- and peer-reflections for personal assumptions

Comparison of reading and writing strategies used

Comparison of strengths and areas for improvement in oral presentation delivery

In the students' responses in the interviews and survey (see below), they commented on the advantages of reflection that the ePortfolio afforded them.

3. Methodology

3.1. Research methods and data analysis

This qualitative research was conducted as a case study over one semester (12 weeks). The data was gathered via semi-structured interviews, an online survey, and document analysis (course outline, course page on Moodle Learning Management System and student ePortfolios). The semi-structured interviews took place at the end of the course, and the questions were related to the students' experiences of using ePortfolios in the course. Students completed the online survey during the last part of the semester, and the ePortfolios were analysed after grades were submitted for the course. NVivo was used as a data management tool to transcribe and conduct thematic analysis.

3.2. The participants

In this study, the participants were a small group of students enrolled in a third-year EAP undergraduate course at a university in New Zealand. In total, eight students volunteered to participate in the study. This was a generic cross-disciplinary course, as the students came from a range of programmes, including (but not restricted to), Screen and Media, Finance, Marketing, Education, Anthropology and Languages.

3.3. The context and assessment design

The course was delivered using a blended learning approach, and face-to-face lectures were supplemented with additional learning resources on Moodle LMS. For the face-to-face component of the course, the students had a 3-hour lecture and 1-hour tutorial/language lab session over 12 weeks. The course coordinator and an e-learning designer conducted this research.

Once the University's ethics committee approved the research, the e-learning designer created a Mahara ePortfolio account and an ePortfolio template to suit the course. Subsequently, ePortfolio accounts were created for each student. The researchers then redesigned several assessments, making the best use of the advantages of the ePortfolio system. The redesigned assessments provided students with more opportunities to collaborate with peers on learning and assessment tasks. These tasks also encouraged students to provide peer

feedback (audio and text-based) and reflect on their learning (both self-reflection and peer-reflection).

The oral presentation described below is an example of a redesigned assessment. In this assessment task, students were required to:

i)   deliver an oral presentation based on a research topic they had investigated;

ii) provide a peer evaluation for a classmate's oral presentation;

iii) prepare a self-reflection.

In previous iterations of this course, students presented in front of the class on a specific day and were assessed by the lecturer as they were presenting. With the revised assessment, the students had far more flexibility and control over this task.

i)   Using a screencast software tool, the students could video-record their presentations at a time they chose, in the presence of three peers and without the teacher's presence.

ii) Students uploaded the video and their self-evaluation of the presentation on their ePortfolio page.

iii) Students then shared their ePortfolio page with a peer and received feedback on their recorded video presentation.

iii) Students submitted their ePortfolios for grading.

3.4. Process and implementation of ePortfolios

A critical element in technology integration is having a well-planned support process. Accordingly, students were offered on-going face-to-face and online support, including participation in three face-to-face computer lab workshops. In these hands-on workshops, students were introduced to the ePortfolio system, its main features, and how they would be using ePortfolios for learning and assessment. A sample contextualised ePortfolio was also shared that could be used as a guide. The sample portfolio (Figure 1) contained seven pages matched with assessment tasks.
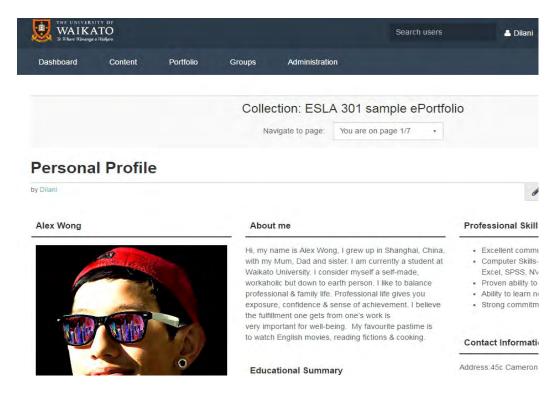
Figure 1. Sample ePortfolio profile page

4. Findings and discussion

4.1. ePortfolio features and affordances

All the students in this study reported that the ePortfolio was a new experience for them. A key theme that emerged from the data was the affordances of ePortfolios. Psychologist James Gibson coined the term 'affordances' in 1977 to refer to the actionable properties between the actor and the world. In relation to computer-human interactions (HCI), however, Don Norman explained in 1988 that the possibility of actions being perceived by the user depended on how the object was presented, which he referred to as perceived affordances (Gibson, 1977; Norman 1988).

Students in this study used various ePortfolio features in order to upload different file types, share components of their portfolios and provide feedback to each other. The specific ePortfolio features used by the students are shown below (Table 1). The students acknowledged that these ePortfolio features enabled them not only to build their portfolios easily but also to engage in collaborative learning.

Table 1. ePortfolio features used by students

Feature	Number of students used this feature
File upload	8
Sharing portfolio pages	8
Video upload	8
Creating a personal profile	7
Audio upload	1
Using the comment feature	1
Sharing URL links	1

As the students pointed out, with the affordances of ePortfolios, they were able to store all the evidence of learning in one place. Students had the ability to customise their portfolio pages based on their needs. Most importantly, they were able to keep track of their learning, as they could see their own work and tasks in front of them. Table 2 below summarises what the students perceived as the most useful affordances of ePortfolios.

Table 2. Affordances of ePortfolio in order

1.	Ease of use
2.	Ability to use different media
3.	Ability to customise content
4.	Ability to keep everything in one place
5.	Ability to keep track of learning
6.	Ability to share work with others
7.	Ability to store evidence of learning

4.2. Learning as a social activity/collaborative learning

In educational settings, encouraging learners to work together does not always guarantee that learners engage in collaborative knowledge construction. To ensure successful collaborative learning, it is vital to provide the necessary conditions and opportunities for collaboration and learner engagement to take place (Gedera, 2015). For instance, in implementing ePortfolios in this context, the redesigned assessment tasks provided the students with multiple opportunities to work together and learn from each other. Students were able to share their ePortfolio pages with their peers and the lecturer to receive feedback on their work.

Students commented:

I could get access to her page...It is nice to share with people and get feedback (P1)

It was helpful. You could share your different pages with the lecturer (P4)

> I can learn from others (P2)
>
> I liked it (sharing ePortfolio pages) because sometimes there may be some errors that I don't know about. I can learn from people who are more knowledgeable than me. Because I think people need to have a little push to learn (P2)

These findings are in line with the concept of the Zone of Proximal Development (ZPD) introduced by Vygotsky. These comments by the learners are in keeping with the social nature of learning, which allows us to create meaning and make sense of our experiences collaboratively (Vygotsky, 1978). The social interactions that took place within this process helped reinforce student learning.

In the context of our research, the learners had opportunities to reflect on their own learning process and create their own meaning. For each assessment task, the features of ePortfolios allowed students to create contextualised spaces where they could reflect on their learning and add multiple means/media to express their thoughts as they constructed knowledge. Students acknowledged that it was useful to be able to reflect on their own learning in a variety of ways.

> The reflections helped remind me of what happened when I did the presentation. I can do better after doing the reflection (P3)
>
> I think the way reflections could be recorded using audio or text was good (P2)

Based on the findings, the collaborative actions undertaken by students in this course can be grouped as follows:

- Technological support collaboration – students provided peer support while negotiating the ePortfolio space, uploading documents, and developing their profile page (both in the computer labs and after class).

- Peer evaluation feedback collaboration – as part of a couple of assessments, students were to critically evaluate a peer's assessment outputs, including concrete suggestions for improvement.

- Peer reflection feedback collaboration – part of one assignment encouraged students to reflect on a peer's critical analysis of a core article, compare that student's views with their own, speculate on why their interpretations might be different, and then comment on what they had learnt from the classmate's perspective on the same academic article.

- Audience support collaboration – one example was the feedback from their peers while students practised their oral presentations before the final recording was uploaded. They presented in small groups and felt more relaxed and supportive of their peers.

As shown above, in addition to encouraging the students to work collaboratively on the technical aspects of operating in an ePortfolio space, the design of some of the assessments promoted collaboration among students and maintained a student-centred approach.

From a socio-cultural perspective, it is important to consider the learners' culture and background during the process of learning. The literature suggests that Asian students, in particular, do not feel comfortable engaging in oral discussions or presentations, as it is not common for these to be part of learning activities in Asian culture (Gedera, 2015; Warschauer, 1996). Furthermore, because students differ in their language ability, they may not feel confident when presenting in front of a large audience. This was evident in the students' comments:

> I am nervous with presentations, it is better if it's a small group as I know them and they are not strangers (P5)
>
> There was a really big contrast for me. For my last presentation, my mind just died (P4)
>
> I think it was (recording the presentation while presenting to a small group) fantastic. It was interesting ...with a whole class, I may be very nervous. I worry and panic. I like small groups because I can feel more relaxed (P2)

Recording their presentations using screencasting software and uploading it on their ePortfolio seemed an easy, simple task for the students, and those less capable were supported by their peers. The software allowed students to include their video and audio together with PowerPoint slides. The talking-head video and slides enabled the lecturer to easily assess the students' work and presentation skills (Fester & Gedera, 2018). Students shared how they found the video recording task:

> The video recording is easy. You can see your face when recording. It helps when you do your presentation (P3)
>
> I think that was very good. Yes, it's very useful. I loved that app. I really enjoyed using it. It's really convenient. You can have your PPT and then you can do your video at the same time (P4)

Working on their presentation with their peers brought the students closer, and it also helped them to build a community of learners. Garrison, Anderson and Archer (2001) describe three forms of presence in their Community of Inquiry (CoI) model: social, cognitive and teaching. According to Garrison (2007), social presence is the capability to form personal and purposeful relationships. Cognitive presence occurs through collaboration and reflection and is described as "the exploration, construction, resolution and confirmation of understanding" (p. 65). In our study, it was evident that the collaborative task not only brought the students together, but they also enjoyed being part of the learning community:

> So I think with a small group, you've got to work with others. There are just a few of you and you always need to talk to each other, so we sort of became friends (P2)

> It is a small group and you have met before, and then you do the presentation and communication with each other, you find you sort of know the people better. I did a presentation yesterday and I really enjoyed the experience (P4)

4.3. Challenges in using ePortfolios

As with integrating any technology, students highlighted a few challenges they faced in using ePortfolios in this context. These challenges were related mainly to the user interface and the functionality of the ePortfolio site. Due to their unfamiliarity with the new tool, students were not sure how to share their ePortfolio pages with their peers, even though this step was covered in the tutorial session conducted earlier. It seems they forgot how to do this. Students shared their views and said:

> You still feel a little confused with sharing (P1)
> Sometimes it can be complicated. If we want to share a file and you have to go into the page and share this page (P3)

The findings indicated that students needed technical and procedural assistance with the sharing feature of ePortfolios. It would have been useful if the researchers had conducted a tutorial towards the end of the semester, just before the students had to share the ePortfolio pages with their peers. This finding is also consistent with Marin's (2020) study, where the author recommends having a familiarisation phase and simple resources when students are introduced to new tools. This helps build students' digital competence.

Another area the students commented on was the user interface of the ePortfolio site. With the ePortfolio version used in this context, students were not able to edit their dashboard to organise their page. Thus, the page looked overcrowded.

> There are so many things on the main page, and it looks so complicated (P3)

Since this research project, the interface of the ePortfolio system that was used has been improved.

5. Conclusion and recommendations

This article discussed how the integration of ePortfolios facilitated collaborative and reflective learning in an undergraduate EAP course. The findings of the study suggest that, overall, the students had a positive learning experience with the use of ePortfolios. It can be concluded that various features and affordances of ePortfolio aided in facilitating collaborative and reflective learning in this context. Although both the students and the lecturer showed positive dispositions towards the use of e-portfolios in enhancing collaborative and reflective learning, the findings highlighted the importance of continuous technical, procedural, and operational

support. Carefully planned assessment design was a key aspect in facilitating collaborative learning and reflection with ePortfolios.

From a process point of view, it is vital to offer hands-on sessions to introduce new technologies, follow up with the students and offer timely assistance when they need help both inside and outside the classroom. The findings also highlighted the need to provide students with both written and video instructions for ePortfolio use, particularly for sharing and tracking shared pages.

Students' experiences and views also suggested that it is useful to have direct access to ePortfolios, a button that you can click via the learning management system (LMS). This suggestion was taken on board and implemented as part of another project that focused on improving the university LMS. The students also suggested that there should be better integration between the LMS and the ePortfolio system so that ePortfolios could be used as an assessment tool. The point is valid but needs to be addressed at an institutional/systems level, as further development is needed to build a Learning Tools Interoperability (LTI) tool to integrate the two systems.

From an ESL and EAP teaching and learning perspective, whether the integration of ePortfolio enhanced students' ESL skills in this context was outside the scope of this article. It will be beneficial to see further studies on the use of ePortfolio for developing collaboration and reflection skills in ESL and EAP across all four skills (Reading, Writing, Listening and Speaking), especially through formative assessment tasks. For example, students could receive and provide peer feedback on draft summaries of reading tasks before submitting their work for teacher feedback. In addition, studies on the use of ePortfolio for facilitating collaboration in other disciplines might provide further insights into the integration of ePortfolios in socio-cultural learning contexts.

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