

POSITIVE EFFECTS OF REFLECTIVE EPORTFOLIO ON OVERSEAS EXCHANGE LEARNING EXPERIENCE

Ron Kwok Chi Wai¹, Hokling Cheung Hok Ling, Josephine Chen Yingjun, Thadani Dimple, Bandyopadhyay Rupa, Tania Lau Yuenkei and Anthony Wong Man Chun
City University of Hong Kong, Kowloon Tong, Hong Kong

¹Department of Information Systems, City University of Hong Kong, Hong Kong, Hong Kong

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Abstract: This study aims to propose a reflective ePortfolio approach and examine its effects on the outcomes of students' learning experience in their overseas exchange studies, the area that has been under-researched to date. Based on the engagement theory, we proposed a research model and hypotheses to test the effectiveness of our proposed ePortfolio approach (in terms of students' affective engagement, cognitive engagement and behavioural engagement via the use of the reflective ePortfolio system) on outcomes of student overseas exchange learning experience (in terms of satisfaction with exchange experience, satisfaction with ePortfolio, perceived achievement in learning, and actual achievement in learning). The findings of this study provide potentially important practical implications for educators, students and designers of ePortfolio on the use of ePortfolio for student exchange.

1 INTRODUCTION

This study aims to bring together the reflective portfolio (Smith and Tillema, 2001) and experiential learning (Eyler 2009; Kolb 1975; Walsh and Cuba 2009) streams of research to examine our proposed electronic portfolio (ePortfolio) approach and its effects on the outcomes of students' experiential learning in their overseas exchange studies, the area that has been under-researched to date.

In general, students learn to appreciate the positive and negative aspects of the people and culture of the visiting country during their exchange studies. Also, they learn to interact socially and participate in discussions with their foreign peers. Moreover, students learn to deal flexibly with and adjust to new people, places, and situations, and in particular, students become responsible, self-confident, mature and independent and learn to accept and appreciate people from other cultures during their exchange studies.

However in spite of these benefits that the students may gain in their exchange learning experience, they face several problems as well. Exchange students often experience cultural shock during their stay abroad. Cultural shock usually

evolves in the following four stages (See details in the Rotary Youth Exchange website).

The four stages are (1) *Excitement and Enthusiasm* (this is the feeling of exhilaration that accompanies when travelling to a new place, seeing and doing new and different things, and meeting new people); (2) *Irritability* (This occurs when the initial excitement wears off and real cultural differences become evident. No matter how understanding and accepting the student may try to be, there will be times when the negative feelings will discourage the student); (3) *Adaptation* (This is when students learn to accept that they will need to adapt if they would like to be successful in their host culture and then they start adjusting to local customs and habits); and (4) *Biculturalism* (Students in this stage realize that they have become competent in another culture and can see the world and function from another, very different, point of view).

Also, some exchange students may experience homesickness (See details in the Rotary Youth Exchange website), especially at the beginning of their exchange study. They may feel lonely and become overwhelmed with the day-to-day challenges that accompany with the transition to a new culture in a foreign country. The easy remedies for acute homesickness are to keep occupied with a

variety of enjoyable activities. Students may also find comfort in talking with someone locally who speaks their native language or understands what they are going through.

It is important for students to understand that it is natural and common to go through low period during their exchange studies, and that cultural shock and homesickness are normal. It helps if students could have channels expressing their feelings and needs. Also, students need to know that the situation will improve as they continue to adjust to a new culture and develop a better understanding of the host country's culture.

Based on the success of the use of ePortfolio (e.g. Smith and Tillema, 2001; Ravet, 2007; Cheung et al., 2007) as a new generation of educational platform and approach that allows students to set goals, execute plans and self-reflect their experience and performance, this paper proposes a reflective ePortfolio approach to assist students to overcome this low period of their exchange studies in general, and examines its effects on the outcomes of student overseas exchange learning experience in particular, an area that is under-researched so far.

The findings of this research study are expected to have a deep and long-term impact on our understanding of the use of reflective ePortfolios for student exchange studies. In addition, this study provides potentially important practical implications for educators, students and designers of ePortfolio on the use of ePortfolio for student exchange.

The rest of this paper is organized as follows. We first review the literature of ePortfolio. Then, we propose a platform of ePortfolio approach based on the primary foundation of ePortfolio. Next, we propose a research model and four hypotheses based on the engagement theory, to test the effectiveness of our ePortfolio approach on outcomes of student overseas exchange learning experience. Afterward, we describe our research method. Then, we explain our results and analysis, followed by discussion and implications. Finally, we illustrate the limitations, future direction and our conclusion.

2 FROM PORTFOLIO TO ePORTFOLIO

Stiggins (1994) defined a portfolio as a collection of student work gathered to demonstrate achievement or improvement. The material to be collected can vary greatly as a function of the assessment context. Stiggins (1994) also added that a portfolio is "a

means of communicating about student growth and development" and "not a form of assessment"(p.87)

Portfolios are typically used for individual student enhancement as well as for assessment purposes. Educators have long used portfolios to collect and assess student work because they demonstrate that a student has met the intended learning outcomes or expectation. Throughout the process of creating portfolios, students are often encouraged to reflect upon and organize their learning achievements. Teachers can then offer feedback on the work, providing them with further opportunities to reflect on their learning experience. This increases intimacy between teachers and students.

With the development of the Internet, educators began to recognize the benefits of digitizing student work and portfolios. Digital versions of student work can be stored and accessed efficiently. Converting student work into digital formats creates new and innovative ways for teachers and students to organize and collaborate through ePortfolios.

ePortfolio is defined as a collection of authentic and diverse evidence, drawn from a larger archive representing what a person or organization has learned over time on which the person or organization has reflected, and designed for presentation to one or more audiences for a particular rhetorical purpose (Barrett & Carney, 2005). An ePortfolio is not a haphazard collection of artifacts (i.e., a digital scrapbook or a multimedia presentation) but also a reflective tool that demonstrates growth over time (Barrett, 2000).

An ePortfolio uses computing technologies as a platform that allows students and teachers to store and organize work and thoughts in many media types (audio, video, graphics, text); and use hypertext links to organize the material and connect evidence to appropriate outcomes, goals or standards.

ePortfolios are being used increasingly in education, but they are still in the nascent stages of development. According to a white paper from the Electronic Portfolio Consortium (Barrett & Carney, 2005): "There is not yet a coherent understanding of functional requirements, design specifications, or how and to what extent an ePortfolio might benefit teaching and learning." In this paper we try to bridge the research gap by relating the effects of developing ePortfolios on students' overseas exchange learning experience.

ePortfolios provide a convenient platform for exchange students to organize and communicate their learning experience resulted from engaging in

these challenging and real-life tasks. Through identifying the intended learning outcomes and writing about their experience, thoughts and reflection, students could draw meaning and communicate their learning accomplishment with their teachers and peers during their exchange studies. Part of the reflective process is to have students to tell stories about their experiences as a form of collaborative learning with their peers as well as with their teachers. This sets up an environment for both individual and collaborative learning especially during student exchange studies.

There are emerging ideas on using ePortfolios for collaborative learning. The empirical research, however, is very limited in this area. Portfolios are not so much an instructional strategy to be researched, but more of a means to an end: to support reflection of students which help them understand their own learning progress. Previous research has focused on the use of ePortfolios for student engagement (Barrett 2000) and student motivation (Ring et al. 2008). There is limited empirical research on the use of ePortfolios for collaboration especially in the context of student exchange. This paper proposes a reflective ePortfolio system and illustrates how it can be used for reflection and collaboration in order to solve the problems of cultural shock and homesickness faced by exchange students in a foreign university.

3 THE PROPOSED ePORTFOLIO APPROACH

We propose an ePortfolio approach with a template of four-section structure, namely Profile, Summary, Showcase and Performance (See Figure 1 for the template of the ePortfolio system). Students are required to personalise this template in a technical training. In the Profile section, students need to provide a short description of themselves, their values and beliefs, career aspirations, and interest and hobbies. This allows students to reflect and present themselves and facilitates teachers and student peers to know each other better. In the Summary section, students are required to set their goals and expectations on their exchange programme before setting off. At the end of the programme upon their return to the hometown, they are required to articulate and describe their accomplishments of the learning outcomes and their own goals with an overall reflection for future direction. Students are also required to rate their

confidence in achieving the Course Intended Learning Outcomes (CILOs)¹. In addition, they need to conduct a self-assessment based on the assessment rubric, and submit a self-assessment form to the teachers. Finally, students need to provide examples of their actual work/evidence correspond with CILOs in the Showcase section. Assignments must be submitted by the deadline and should remain unchanged. One of the assignments is an overall self-reflection that students are required to critically self-assess their exchange experience. Guiding questions for reflection are provided to help students make effective reflection. At the end of the exchange programme, course teachers would assess each student's ePortfolio and grade their work according to the assignment rubric with the overall comments posted in the Performance section. Unlike other sections, this Performance section with grade and teacher comments is made by default for individual students only so as to respect privacy. Student could make it public if they feel comfortable to do so.

Also, students could access all other classmates' ePortfolios and they are encouraged to browse and leave comments for each other. Teachers can make regular visit to each student's ePortfolio and give feedback accordingly. Student interaction and collaboration are facilitated and encouraged for everyone in the class as a community.

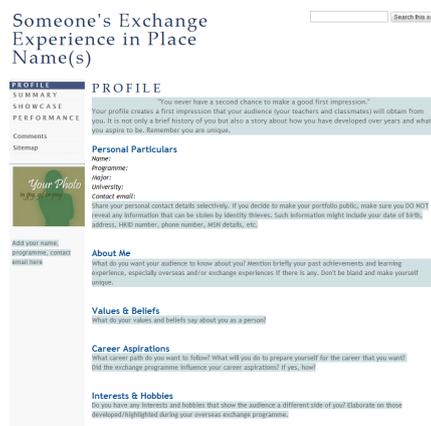


Figure 1: The template of the ePortfolio system.

3.1 The Platform

Google Sites was originally planned to be used for the exchange programme, with integration of other Google applications, such as Google Docs and Google Reader. These functions were structured and integrated in a pre-designed template. Students were

expected to adopt the template with ease and followed the guides embedded in the template. The Google Sites and other applications were found to be intuitive and easy for students to use with basic training. For the Performance section which required different access control, Google Docs was used as an embedded content page in the section. Therefore, teachers could continue to view and post grade and comments for students' work and reflection in the same ePortfolios while other students could also browse as much as allowed each others' ePortfolios. Google Form was used for both teachers and peers to leave comments to facilitate reflection. The Google Form allowed users to generate survey forms to help individual to collect feedback. The same mechanism was used by teachers to ask students to submit their self-assessment. There were several types of pages users could use for Google Sites. Thus students wrote their reflection in a blog-post format using the announcement page in the Showcase section. This function allowed teachers to see the last modified date and collect students' work with Google Reader via RSS feed. Thus instead of browsing each individual students' ePortfolios to identify any changes, teachers could be alerted timely via these functions and features.

However, the unexpected incident happened that Google Sites was blocked in mainland China prevented students who had already gone abroad for their exchange programme in Beijing from accessing their ePortfolios on Google platform. We had, therefore, come up with several contingency plans, such as making paper portfolios, using Blackboard Personal Portfolio or University GApps. After a few rounds of discussion with the course teachers and ePortfolio project team, we agreed to use the Campus Pack Wiki (Version 2.9.3) from Learning Object integrated in the University's eLearning system, Blackboard.

3.2 Research Model and Hypotheses

We proposed the following research model (see Figure 2) and hypotheses to test the effectiveness of our proposed ePortfolio approach on outcomes of student overseas exchange learning experience.

3.2.1 Affective Engagement

Based on Jimerson et al. (2003), we define affective engagement as students' sense of belonging, connection and support by peers and teachers via the use of reflective ePortfolio. In other words, students would create a sense of belonging to the student

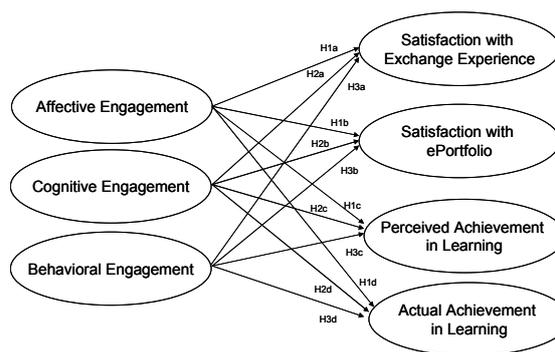


Figure 2: Our proposed research model.

exchange community and would be interested in engaging in their exchange learning experience. Overall, affective engagement via the use of reflective ePortfolio is expected to have a positive effect on the exchange learning experience, as it helps students create their self-identity by illustrating their successful stories in their exchange studies. This makes students feel satisfied, pleased and proud of their achievements.

In particular, affective engagement instills a sense of belonging to the ePortfolio community in which the student peer supports each other and makes students feel being respected. Students also feel that their peers are interested in their achievements and care about their success. In return they also help their peers to learn and this instills a positive attitude in them about helping others. Via the use of the reflective ePortfolio, students can reflect on their experience, expected and actual achievements with feedback from others which would eventually develop positive views about their learning experience and outcomes. Hence students feel satisfied with their exchange programme and their achievements by reflecting and collaborating through the ePortfolio.

This leads us to first set of hypotheses:

- H1a: Affective engagement leads to satisfaction with the exchange experience
- H1b: Affective engagement leads to satisfaction with the reflective ePortfolio
- H1c: Affective engagement leads to perceived achievement in learning
- H1d: Affective engagement leads to actual achievement in learning

3.2.2 Cognitive Engagement

Based on Appleton et al. (2006), we define cognitive engagement as students' engagement in the reflective ePortfolio expressed as goal setting, study planning, and self-regulation of performance. In

other words, it refers to students self-regulate themselves to achieve their learning goals during their exchange studies. Students would maintain an ePortfolio that is for their exchange experience and make reflection of their learning experience. Students would have to learn to plan and execute accordingly to achieve their goals. Students would make explicit their values, beliefs and thinking through the ePortfolios. They would have a more substantial record of writing to observe the differences in attitudes, behaviors and cultural background of themselves as well as their peers. Cognitive engagement requires students to set goals, create action plans, record their thinking and articulate their achievements. Students are prompted to identify their own interests and goals of the exchange programme in addition to the intended learning outcomes and expectations from teachers. This in turn helps students identify the possible value of the programme and better assess their accomplishments at the end of exchange study.

This leads us to the following hypotheses:

- H2a: Cognitive engagement leads to satisfaction with the exchange experience
- H2b: Cognitive engagement leads to satisfaction with the reflective ePortfolio
- H2c: Cognitive engagement leads to perceived achievement in learning
- H2d: Cognitive engagement leads to actual achievement in learning

3.2.3 Behavioral Engagement

Based on Jimerson et al. (2003), we define behavioral engagement the frequency and the extent to which the reflective ePortfolio was physically and actually used. In other words, it refers to the time and efforts students spent on developing and using the ePortfolio for the exchange programme. Students are encouraged to use ePortfolios to share their experience and showcase accomplishments with their peers and teachers. Students can decide on how frequently they update their reflection on the experiences and accomplishment through the ePortfolios. They can also decide when and how often they should visit others' ePortfolios. Behavioral engagement focuses on students' time and efforts in developing the ePortfolios. Students have to update and visit their ePortfolios. This helps students to feel satisfied with their exchange programme and their achievements by frequent interaction with their ePortfolios.

This leads us to the following hypotheses:

- H3a: Behavioral engagement leads to satisfaction with the exchange experience
- H3b: Behavioral engagement leads to satisfaction with the reflective ePortfolio
- H3c: Behavioral engagement leads to perceived achievement in learning
- H3d: Behavioral engagement leads to actual achievement in learning

4 METHODOLOGY

To evaluate the effects of the ePortfolio system on students' overseas exchange learning experiences, this study adopts a multi-method protocol, including student portfolio grading and survey. In particular, our data were collected using self-administrated survey. The respondents were undergraduate students from our university who enrolled in the 1-credit unit course "Exchange Experience Assessment" during Spring semester of 2009/2010. Students who enrolled in this course were required to go on a one-semester exchange programme overseas. Reflective ePortfolio was used as a platform for them to reflect on their overseas experience during their exchange. 30 students were enrolled in this course and 23 of them completed the survey. A total of 43.5% of the respondents were male.

4.1 Independent Variables

Affective Engagement. It measured students' sense of belonging, connection and support by peers and teachers via the use of reflective ePortfolio. It was measured on a 9-item scale modified from Finns (1989), Fredericks et al. (2004), Appleton et al. (2006), and Jimerson et al. (2003). This measure had a Cronbach alpha reliability of 0.921. The sample items were "When I was constructing my ePortfolio, I had the feeling of Proudful", "My teachers/classmates respected what I wrote in my ePortfolio", and "My comments on the ePortfolio of my classmates were open".

Cognitive Engagement. It measured students' engagement in the reflective ePortfolio expressed as goal setting, study planning, and self-regulation of performance. It was measured on a 9-item scale modified from Finns (1989), Fredericks et al. (2004), Appleton et al. (2006), and Jimerson et al. (2003). The reliability coefficient of the scale was 0.890. The sample items were "I checked the relevance of the content of my ePortfolio from time

to time”, “I used my ePortfolio to demonstrate the achievement of my goals of the exchange programme”, and “I constructed my ePortfolio for completing the requirements of the coursework.”

Behavioral Engagement. It measured the frequency and the extent to which the reflective ePortfolio was physically used. It was measured on a 3-item scale adapted from Finns (1989), Fredericks et al. (2004), and Jimerson et al. (2003). The reliability coefficient of the scale was 0.75. The items were “I frequently logged in to the ePortfolio system to update my personal portfolio”, “I frequently used the ePortfolio to record my achievements”, and “I frequently visited the ePortfolio to check for my classmates and teachers’ comments.”

4.2 Dependent Variables

Satisfaction with Exchange Experience. It was measured on a three-item scale partly adapted from Bhattacharjee (2008). This measure had a Cronbach alpha reliability score of 0.854. Participants were asked to rate the overall experience with the exchange learning experience based on a 7-point likert scale (i.e. your overall learning experience of this exchange programme was satisfied/ enjoyable/ delighted.).

Satisfaction with Reflective ePortfolio. It was measured on a three-item scale partly adapted from Bhattacharjee (2008). This measure had a Cronbach alpha reliability score of 0.905. Participants were asked to rate the overall experience with the reflective ePortfolio usage based on a 7-point likert scale (i.e. your overall experience of using the reflective ePortfolio was satisfied/ enjoyable/ delighted.).

Perceived Achievement in Learning. It was measured on a three-item self-developed scale. The reliability coefficient of the scale was 0.893. The measurement items were “I achieved my expectations of the exchange programme”, “I achieved my goals of the exchange programme”, “I implemented my plan of the exchange programme successfully.”

Actual Achievement in Learning. It was measured on the actual marks assigned to students who took based on the scale of 100.

5 RESULTS AND ANALYSIS

Means, standard deviations, and correlations coefficients of all constructs are depicted in Table 1

(see Appendix). The mean for cognitive engagement was slightly higher than that of the affective engagement, indicating that students used reflective ePortfolio more for goal setting and self-regulation purposes.

Referring to the correlations matrix, affective engagement was significantly correlated with the perceived achievement in learning, satisfaction with exchange experience and satisfaction with ePortfolio. Cognitive engagement was significantly correlated with the perceived and actual achievement in learning. However, behavioral engagement was only found correlated with the perceived achievement in learning. Thus, the perceived achievement in learning was significant correlated with affective, cognitive and behavioral engagement of reflective ePortfolio whereas the actual achievement in learning was only correlated with cognitive engagement. Gender was the control variable and it was not significantly related to the predicted variables.

To test the hypotheses, four multiple regression analyses were carried out. In other words, the predictor variables were the same in all of the analyses, whereas the predicted variables changed. The four predicted variables were satisfaction with exchange experience, satisfaction with ePortfolio, perceived achievement in learning and actual achievement in learning. Table 2 (see Appendix) presents the results of the regression analysis.

As shown in the results of structural model (see Figure 3), no statistically significant relationship was found between affective engagement and (1) perceived achievement in learning, (2) actual achievement in learning. Thus, hypothesis 1c and 1d were not supported. However, it was found that affective engagement in ePortfolio was positively associated with satisfaction with exchange experience ($\beta= 0.696$, $t=4.212$, $p<0.001$) and satisfaction with ePortfolio ($\beta= 0.812$, $t=4.609$, $p<0.001$). Hypotheses 1a and 1b were supported.

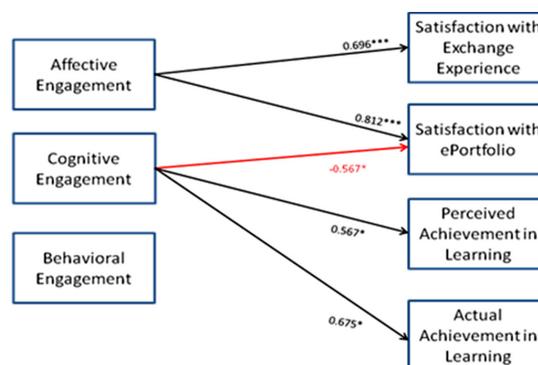


Figure 3: Results of structural model.

Moreover, it was found that hypotheses 2c and 2d were supported as cognitive engagement was positively related to perceived achievement in learning ($\beta = 0.567$, $t = 2.605$, $p < 0.05$) as well as actual achievement in learning ($\beta = 0.675$, $t = 2.604$, $p < 0.05$). Although significant relationship was found between cognitive engagement and satisfaction with ePortfolio ($\beta = -0.567$, $t = -2.546$, $p < 0.05$), the relationship was in opposite direction. No statistically significant relationship was found in satisfaction in exchange experience. Thus, hypotheses 2a and 2b were not supported. Behavioral engagement was not significantly associated with any of the predictors. Table 3 (see Appendix) presents the summary of hypotheses testing.

6 DISCUSSION

It is necessary to point out that, due to the limited number of the enrolled students in the surveyed course, effective size is small. Therefore, certain paths may not be as significant as perceived due to this limited statistical power. Nevertheless, the data has revealed some interesting results that may inform effective implementation of ePortfolios in students' exchange programmes in the future.

Interestingly, different from what the engagement theory (e.g. Finns 1989, Fredericks et al. 2004, Jimerson et al. 2003, Appleton et al. (2006)) suggests, not all of the components of engagement (i.e. affective engagement, cognitive engagement and behavioral engagement) lead to the four learning outcomes (i.e. satisfaction with exchange experience, satisfaction with ePortfolio, perceived achievement in learning and actual achievement in learning). The discrepancies lie in three areas:

- 1) Affective engagement is most significantly related to the satisfaction with exchange experience and ePortfolio, while there lacks a high correlation between affective engagement and the perceived or actual achievement in learning;
- 2) Cognitive engagement is most significantly related to the perceived and actual achievement in learning, but there lacks a high and positive correlation between cognitive engagement and the satisfaction with exchange experience and ePortfolio respectively.
- 3) Behavioral engagement is not significantly related to any predictors.

Affective engagement measures students' sense of belonging, connection and support by peers and

teachers via the use of reflective ePortfolio. As discussed earlier in this paper, exchange students face multiple challenges when study overseas, such as cultural shock, homesickness, language difficulties. Therefore, psychological support from peers who are in the same situation and confronted with the similar problems is crucial for exchange students to survive and succeed in the new environment. In addition, psychological support also comes from oneself. When students create their self identity and recognise their achievements, their esteem is built up, and hence the satisfaction of their exchange experience grows. In other words, whether students find their exchange programme satisfying, enjoyable or delightful is largely related to the degree of affective engagement, that is, collaborative psychological engagement and individual psychological engagement.

If we look at the exchange students' ePortfolios, we will find that both types of psychological engagement can be obtained through the development of ePortfolios. In the provided template, collaborative functions, especially leaving comments, are included. Students are encouraged to provide feedback to their classmates on their overall ePortfolios, as well as a particular piece of work and/or experience. This also implies that students can see what their fellow classmates are doing, what problems they are facing, and how they cope with these problems. In such an ePortfolio community, students are expected to gain practical and psychological support from each other. Furthermore, in an exchange ePortfolio, students are asked to record their achievements, conduct self-assessment and make reflections on their values, development and future directions. By doing so, students are expected to gain self-respect in an environment where their esteem is often challenged. To this end, it is clear that, as the data also suggests, affective engagement is closely related to the satisfaction with exchange experience and the development of ePortfolios. While affective engagement has more to do with the psychological part, that is, a sense of satisfaction, cognitive engagement is more related to learning achievements.

Cognitive engagement refers to self-regulation and measures the efforts students make to achieve their learning outcomes. If we take a look at the Course Intended Learning Outcomes (CILOs)¹ set by the course teachers, we can see that ePortfolios play an important role in helping students achieve these CILOs. Students are asked to set goals in addition to CILOs, to make action plans to achieve their goals, and to record actual work/evidence to demonstrate

their learning, and to reflect on the work they have done, activity participated and experience involved. A large component of these work, activities and experiences has to do with communicating with local people, identifying culture differences, overcoming cultural barriers, and observing the uses of IT in the local communities. When the development of ePortfolios help students achieve learning outcomes, which is precisely what cognitive engagement is defined, it is clear that high cognitive engagement can increase perceived and actual achievement in learning, and vice versa. But it, unlike affective engagement, has limited impact on the psychological aspects, such as satisfaction with exchange experience, and even negative impacts (see Figure 3 for the negative correlation between cognitive engagement and satisfaction with ePortfolio) on satisfaction with ePortfolios. These findings imply that we need to provide better training for students for the effective use of ePortfolio for cognitive engagement activities. Also we also need to further improve the design of the ePortfolio platform, such as the inclusion of “fun” elements of the system, in order to motivate students to cognitively engage in the goal setting, study planning and self regulating of their exchange studies via the use of the ePortfolio system.

Finally, the data shows that behavioural engagement is not significantly associated with any of the predictors. Behavioural engagement measures students’ participation in the exchange programme, and the frequency and the extent to which ePortfolios are physically used. The result indicates that forcing students to use ePortfolio physically without engaging them affectively or cognitively will not increase their satisfaction of learning, nor help them achieve learning outcomes. Having said that, we do not deny that behavioural engagement is necessary. In fact, it is the prerequisite for affective and cognitive engagement to occur. Without physically involving students to participate in the exchange programme and to use ePortfolios, no satisfaction or learning can happen.

7 IMPLICATIONS FOR STUDENTS, TEACHERS AND DESIGNERS

Having presented thus far, we can see how certain engagement components relate to different learning outcomes. Some suggestions for teachers and students who use ePortfolios in exchange

programmes, and for e-learning platforms designers in general, can be drawn as follows:

To achieve learning outcomes, teachers, first and foremost, should make their expectations clear in terms of measurable and observable learning outcomes and encourage students to personalise these outcomes as their own learning goals or to identify more valuable outcomes for the exchange programme or the learning activity. Also, teachers should provide students with instructions and guidance on how to reflect, what information and work are valuable to evidence learning, and what criteria they should use to self-assess. These enhance cognitive development and engagement. To create a more open and collaborative platform and atmosphere for students and teachers to express and communicate is essential to enhance the affective engagement and satisfaction on the experiences. These can therefore add value to the behavioral engagement and motivate students to regularly update and review of each others’ ePortfolios.

Secondly, to make the exchange experience a good one, a supportive and constructive culture and virtual environment needs to be established where students are encouraged communicate their needs and offer support for each others. They should be open to share problems and difficulties encountered in the exchange programme, and to give positive/helpful feedback to their peers. To further facilitate this affective engagement, teachers should interfere whenever necessary. For instance, when problems cannot be solved by students themselves, teachers can use the comment function to provide professional advice. Teachers can also recommend some student’s ePortfolio or a particular event he/she has participated in and recorded in the ePortfolio to the rest of the class. In this way, students can not only learn from each other but can also be appreciated by their peers and therefore increase their satisfaction of the exchange experience. Needless to say, the ePortfolio template has to have the collaborative and reflective functions to make this happen. If students gain satisfaction from their exchange programme through the use of ePortfolios, they are more likely to gain satisfaction from developing their ePortfolios.

Thirdly, to enhance achievement in learning (either perceived or actual), students and teachers should make sure certain skills are developed. These skills may include goal setting, making action plans, recording learning experience and reflecting, depending on what course intended learning outcomes. These skills have to do with the cognitive engagement. While students should consciously

engage in the skill developing process, teachers can provide training and support to facilitate cognitive engagement.

Last but not least, the survey results have revealed that behavioural engagement alone is unlikely to lead to satisfaction or achievements in learning. This informs us that the conventional e-learning platforms that often neglect affective and cognitive engagement are not effective to achieve learning outcomes. To this end, designers of e-learning platforms should include at least two elements that are crucial for learning to occur. The first element is related to collaboration. This includes sharing function (i.e. sharing work to the selected groups or open to anyone) and commenting function (i.e. providing feedback to peers and receiving from audience). The second element is skills-driven. If we believe learning outcomes can be obtained in the process of developing certain skills, e-learning platforms should be skills-driven. Students should be informed clearly what is expected from them and be guided step by step. Each step should be skill-based. For example, if students are asked to set goals, they should learn what smart goals are and how to set smart goals. If students are asked to make reflection, they should learn how to reflect. In an effective e-learning platform, designers should state these steps explicitly and provide guidance if necessary. Also as aforementioned, designers of ePortfolio system may consider to include more “fun” elements in the design of the ePortfolio system, with the purpose to let students have an enjoyable cognitive engagement in the goal setting, study planning and self regulating of their exchange studies via the use of the ePortfolio system.

8 LIMITATION AND FUTURE RESEARCH

We acknowledge several limitations to our study related to the design of the ePortfolio system, which suggest the need for future research. As aforementioned, we used the Campus Pack Wiki (Version 2.9.3) as the platform of our ePortfolio system. In fact, several functions are missing in the Campus Pack Wiki (Version 2.9.3) as compared to Google Sites. Firstly, the Campus Pack Wiki cannot set page permission, and therefore online grading has to go offline. In this regard, the Performance section was renamed as Assessment Criteria. In addition, RSS feed and blog were given up in the

Showcase section, but teachers were still able to keep track on students’ last modified date of their ePortfolios. Finally, we changed the self-assessment form from Google Form to a Blackboard test which could generate a summary of students’ self evaluation. The major challenge in Campus Pack Wiki (Version 2.9.3) is that teachers have to create a template for each individual student instead of creating one for all to download. This will result in too much workload for teachers.

We are still evaluating other ePortfolio platforms in order to enhance more communication and collaboration among students and teachers, and students themselves, during exchange programme. The popularity of Facebook has inspired us to integrate some social features into our ePortfolio template and the respective demand on the technological platform and functions. They include, naming a few, adding friends, summarising friends’ update in a dashboard and viewing who is online, and other social networking features. Students can even vote for the best work of their classmates. With ranking shown on each assignment, students will be more motivated to share their exchange experiences. In addition to the communication among peers, the interaction between teachers and students are also crucial. A good platform should also contain assessment submission feature which can lock and take a frozen shots of the ePortfolio pages, so the assignment cannot be changed after submission deadline. Teachers will also be able to leave comments that are can only be seen by the student, and to grade online. We will keep trying different platforms and continue to seek the best platform for the collaborative and reflective ePortfolios for student exchange experience.

9 CONCLUSIONS

This study examines the effects of our proposed reflective ePortfolio system on the outcomes of students’ learning experience in their overseas exchange studies, the area that has been under-researched to date. Based on our collected data and results, we found that students’ affective engagement in ePortfolio was positively associated with satisfaction with exchange experience and satisfaction with ePortfolio. Also, we found that students’ cognitive engagement in ePortfolio was positively related to perceived achievement in learning as well as actual achievement in learning. More interestingly, although significant relationship was found between cognitive engagement and

satisfaction with ePortfolio, the relationship was in opposite direction. In other words, our findings suggest that students' affective engagement in ePortfolio has more to do with the psychological part, that is, a sense of satisfaction, while cognitive engagement is more related to learning achievements.

We wish our proposed reflective ePortfolio approach could help students go through the low period of their exchange studies in general, and provide positive effects on outcomes of their overseas exchange learning experience in particular.

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APPENDIX

Table 1: Means, Standard Deviations, and Correlations^a.

Variables	Mean	s.d.	1	2	3	4	5	6	7	8
1 Affective Engagement	5.232	0.77	(.921)							
2 Cognitive Engagement	5.327	0.70	.472*	(.890)						
3 Behavioral Engagement	5.435	0.71	.261	.646**	(.751)					
4 Satisfaction with the Exchange Experience	5.74	0.84	.679**	.248	-.147	(.854)				
5 Satisfaction with the Reflective ePortfolio	4.99	0.91	.623**	.011	.148	.425*	(.905)			
6 Perceived Achievement of Learning	5.40	1.06	.575**	.697**	.420*	.546*	.447*	(.893)		
7 Actual Achievement of Learning	79.26	12.76	.339	.603**	.296	.329	.050	.071	--	
8 Gender (Control variable)			.456	.468	.394	.875	.444	.384	.122	--

^an =23; reliability coefficients are reported along the diagonal: Mean and standard deviations reported here are for unstandardized variables

*p<.05

**p<.01

***p<.001

Two-tailed tests

Table 2: Regression Analyses.

Independent variables	Satisfaction with Exchange Experience		Satisfaction with ePortfolio		Perceived Achievement in Learning		Actual Achievement in Learning	
	Beta	T	Beta	t	Beta	t	Beta	t
Affective Engagement	0.696***	4.212	0.812***	4.06	0.315	1.831	0.061	0.297
Cognitive Engagement	0.226	1.081	-0.567*	-2.55	0.567*	2.605	0.675*	2.604
Behavioral Engagement	-0.475	-2.488	0.302	1.49	-0.028	-0.142	-0.156	-0.66
n	23		23		23		23	
R	0.774		0.737		0.752		0.618	
R ²	0.599		0.544		0.565		0.382	
F	9.442		7.552		8.218		3.905	

Notes: Significance *p<0.05; **p<0.01, ***p<0.001

Table 3: Summary of Hypotheses Testing.

Hypothesis		Results
H1a	Affective engagement--> Satisfaction with exchange experience	SUPPORTED
H1b	Affective engagement--> Satisfaction with reflective ePortfolio	SUPPORTED
H1c	Affective engagement--> Perceived achievement in learning	NOT SUPPORTED
H1d	Affective engagement--> Actual achievement in learning	NOT SUPPORTED
H2a	Cognitive engagement--> Satisfaction with exchange experience	SUPPORTED
H2b	Cognitive engagement--> Satisfaction with reflective ePortfolio	SUPPORTED
H2c	Cognitive engagement--> Perceived achievement in learning	NOT SUPPORTED
H2d	Cognitive engagement--> Actual achievement in learning	NOT SUPPORTED
H3a	Behavioral engagement--> Satisfaction with exchange experience	NOT SUPPORTED
H3b	Behavioral engagement--> Satisfaction with reflective ePortfolio	NOT SUPPORTED
H3c	Behavioral engagement--> Perceived achievement in learning	NOT SUPPORTED
H3d	Behavioral engagement--> Actual achievement in learning	NOT SUPPORTED

¹There are five course Intended Learning Outcomes (CILOs) for “Exchange Experience Assessment”: 1) Describe the role of communication in culture and overcome communication barriers, 2) Recognise cultural variables and explain how they shape our social and work interactions, 3) Identify and critically evaluate communication norms, rituals, and taboos of students’ cultures and other cultures they have been exposed to during their study programme, 4) Develop successful strategies to overcome cultural barriers and demonstrate their usefulness, and 5) Compare and contrast the use of IT in local universities/organizations with the counterparts overseas.