EFFECTIVENESS OF CULTURAL APPRECIATION VIA ONLINE LEARNING

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ABSTRACT

This paper summarizes the experiences we gained from a pilot effort in preparing students from Singapore Polytechnic (SP) for their awareness of Vietnamese culture via e-learning before and after they embark on an overseas attachment at Duy Tan University (DTU) in Vietnam for a period of 5 weeks, during which they will work alongside DTU faculty and students on various sustainable development related projects. It is a follow-up of SP's earlier effort in instilling global mindset among students using the CDIO approach.

The two main objectives of this current effort are: (a) to instil cultural sensitivities as an important learning outcome among SP students; and (b) to ascertain the effectiveness of e-learning as a means to achieve the first objective. These objectives also serve to support SP's effort to design a more-structured approach to its overseas training program which is currently being handled on a more-or-less ad hoc basis. Last but not least, SP and DTU hoped that the experience gained will help both institutions improve collaborations on a more sustainable basis.

The paper first briefly explains the importance of cultural awareness and shares evidence about the effectiveness of e-learning application to achieve this goal. It then shares the approach taken by SP and DTU, which consists of SP students learning about Vietnamese culture using DTU's preparatory e-learning resources, and then staying in Vietnam and experience Vietnamese culture first-hand. Based on our findings before and after the attachment, we will offer plausible suggestions for possible future joint projects and propose a model of collaboration as we journey together in this exciting new endeavour.

(263 words)

KEYWORDS

Cross-Cultural Awareness, e-Learning, engineering education, CDIO Standards 7 & 8

NOTE: Singapore Polytechnic uses the word "courses" to describe its education "programs". A "course" in the Diploma in Chemical Engineering consists of many subjects that are termed "modules"; which in the universities contexts are often called "courses".

INTRODUCTION

Collaborations between organizations in different countries had become more and more important in tackling various challenges of today's globalized world. This is especially true for engineering education, the practice of which of may vary in relation to the environment in which the engineer finds him/herself working, which may affect the approaches taken for planning, design and construction to get optimal solutions (Rhamdhani, et al., 2009). There is hence a need for engineering graduates to be "internationalized", i.e., to be aware of and sensitive to the local and global environments in which they will be working. Cultural awareness is, therefore, an important attribute for engineering graduates to work together with their counterparts from various countries. It is also an important requirement of international employers (Becker, 2006). Goldfinch et al (2010) noted that improving engineering students' cultural awareness is not only important for their professional success, but also for the people whose lives are impacted by the engineering projects undertaken by these engineers.

Many stakeholders had called for educators to include the teaching of cross-cultural awareness in the curriculum (NAE, 2004; 2005). Clark (2004) for example, suggested that a new curriculum should include knowledge about the major international constructs such as international economics, marketing, management, law, politics, religions, and the environment. In an already-packed engineering curriculum, this obviously posed considerable challenges for faculty. A variety of responses had been introduced, including study-abroad programs, service learning, cultural immersion tours, etc. (see for example Zapalska et al., 2013). These programs all involved sending only a limited number of students overseas, and present significant scale-up issues in terms of costs and logistics.

On the other hand, affordances brought about by advances in technology had enabled online or e-learning for most, if not all students, the limit being simply access to computers or laptops. A recent study by Means et al (2010) found that, despite the difficulty of ensuring equal comparisons, online learning appeared to be as effective as conventional classroom instructions. Henceforth, online learning offers a cost-effective avenue for introducing cross-cultural awareness among students without the attendant challenges of "bringing students to the world". Many of these online learning efforts focused on the teaching of English language to foreign students. In an interesting study, Liaw (2006) reported on the efficacy of an online learning environment developed to foster EFL (English as a Foreign Language) students' intercultural competence via reading articles on topics of their own culture and communicating their responses with speakers of another culture.

Meier (2007) suggested that e-learning can be a means to establishing intercultural understanding, provided that the e-learning environment is supportive of the aim. In the absence of this support, it is possible that learners may become weary and disillusioned with the experience and can emerge from the intercultural encounter with the minimum of positive outcomes. She further suggested that "the use of a blended approach that accommodates teaching at a distance and uses communications technology combined with traditional education (instructor-led learning) is considered the best way to create a supportive e-learning environment that will help learners to achieve intercultural understanding." Leveraging on technology to enable students to attend cultural awareness lessons via e-learning is the focus of a new initiative of Diploma in Chemical Engineering (DCHE) from Singapore Polytechnic (SP) as described in the subsequent paragraphs.

DESCRIPTION OF THE PROJECT

This project is a follow-up of the DCHE Course Management Team's (CMT) earlier effort in using CDIO to introduce global mindset into its 3-year curriculum, as described by the first author and colleague (Cheah & Phua, 2012). In that earlier effort, termed "Bringing the World to Students", the CMT attempted to instil global mindset for all its students by engaging them in discussions and solving problems related to global issues in the context of chemical engineering education. The pedagogical approach based on the CDIO framework had been discussed before and not repeated here. Suffice to note that this effort attempted to address the limitations of existing efforts of the CMT's "Bringing Students to the World" overseas programs, which is known as overseas industrial training program, or OITP in short. Existing OITP had been largely ad hoc in nature, with no clear learning outcomes related to global mindset. There is also no training to prepare our students culturally for the OITP. The objective then was to give students some form of "overseas exposure" the definition of which was still vague and subjected to different and sometimes conflicting interpretations. Most of the work done during OITP involves assisting the sponsoring university faculty and/or their post-graduate students in some research works. Henceforth, as far as the students are concerned, the work they did while being overseas ends with the conclusion of their OITP. After they return to Singapore, they do not make use of the knowledge and skills gained during their OITP. Not surprisingly, the sustainability of such OITPs often cannot be assured beyond 2, or at most 3, semesters.

The current project is the team's renewed effort at "Bringing Students to the World", this time by adopting a more structured approach to manage the OITP, with the explicit aim to develop cultural awareness among SP students through online e-learning and collaborative project works through a partnership with Duy Tan University (DTU) in Vietnam. An initial exploratory effort between the 2 institutions in preparation for the 2013 CDIO Academy led us to identify projects related to Sustainable Development (SD) as areas of mutual interest that we can collaborate on. Among the many challenges both parties identified is the need to better prepare SP students culturally for working with their Vietnamese counterparts.

This paper summarizes the experience we gained from our effort in equipping SP students with basic knowledge of Vietnamese culture via e-learning before they embark on their OITP to DTU. A total of 12 students from 3 different diplomas in SP will spend 5 weeks from March 10 to April 11, 2014 in Vietnam. All the students had not visited Vietnam before and had no prior knowledge of the country. Prior to embarking on the OITP, the students took selected modules from DTU's e-learning resources, as shown in Table 1. Each session lasted between 2 to 3 hours, and is supplemented with video-conferencing sessions as needed. The students also undertook some online non-graded assessments to help them monitor their own learning progress. The students then depart for DTU, and for the duration of their OITP, worked with DTU faculty and students on a range of SD-themed projects.

The two main objectives of this effort are: (a) to instil cultural sensitivities as an important learning outcome among SP students; and (b) to ascertain the effectiveness of e-learning as a means to achieve the first objective. These objectives also serve to support SP's effort to design a more-structured approach to its overseas training program which is currently being handled on a more-or-less ad hoc basis. Last but not least, SP and DTU hoped that the experience gained will help both institutions improve collaborations on a more sustainable basis.

Table 1. Selected topics in e-learning

Topic 1: AN INTRODUCTION TO VIETNAMESE CULTURE
Objectives - Students are expected to:
   1. Understand overall about the program
   2. Know how to avoid culture shock in common

Topic 2: VIETNAM HISTORY IN BRIEF
Objectives - Students are expected to:
   1. Demonstrate the development of culture in Vietnam in the Đại Việt (Great Viet) era
   2. Demonstrate Vietnamese history in contemporary and modern periods

Topic 3: FESTIVALS IN VIET NAM
Objectives - The students are expected to:
   1. Understand how Vietnamese people celebrate Tet (Lunar New Year) and some customs, legends related to Tet
   2. Examine some festivals in Vietnam, particularly in Danang

Topic 6: FAMILY LIFE IN VIETNAM
Objectives - The students are expected to:
   1. Examine the roles of family in the spiritual life of the Vietnamese people
   2. Demonstrate the procedures of wedding and funeral and traditions related to them
   3. How to avoid culture shocks in some situations

Topic 7: EDUCATION SYSTEM IN VIETNAM
Objectives - Students are expected to:
   1. Understand Confucian system in Vietnam
   2. Compare differences of Vietnamese education in the past and now

We conducted the following studies to evaluate students' learning experience about the effectiveness of using the online e-learning resources to appreciate Vietnamese culture:

(1) A self-evaluation survey of their own perception about foreign cultures in general,
(2) A pre-online learning survey of their perceived understanding of Vietnamese culture,
(3) A post-online learning survey after they completed DTU's online e-learning modules,
(4) A focus group discussion two weeks after they arrived in Vietnam.

The self-evaluation survey and pre-online learning survey were undertaken by the students in November 2013, before they were granted access to DTU's online modules and before they embark on their OITP. Survey (3) was also undertaken before OITP, but after completing the online e-learning. In Survey (3), we also seek to understand the ease of using the online e-learning system as perceived by the students. The focus group discussion (4) was conducted when the students settled down in the new environment of Da Nang City (where DTU is located) and had a chance to experience first-hand the Vietnamese culture.

The self-evaluation survey was based on the modified Miville-Guzman Universality-Diversity Scale-Short Form (M-GUDS-S) from Wabash College and My Cultural Awareness Profile (MyCAP) from NAFSA (Association of International Educators). The M-GUDS-S is a 15-item multiple-choice questionnaire that measures student attitudes, cognitions, and behaviors regarding diversity. Developed by Marie L. Miville, this instrument uses a 6-point Likert-type scale (Strongly Agree, Agree, Agree a Little Bit, Disagree a Little Bit, Disagree, Strongly Disagree) to assess students' awareness and acceptance of both similarities and

differences among people. The MyCAP is a cultural awareness self-reflection tool for use by and with pre-service teachers, which we found quite appropriate even with diploma-level students. For consistency with M-GUDS-S, we used a 6-point Likert scale (All the Time, Often, Some Times, Not Often, Rarely, Not at All) for MyCAP. The questions in our modified M-GUDS-S and MyCAP are shown in Table 2 and Table 3 respectively.

Table 2. The modified M-GUDS-S survey used in this paper

A. Diversity of Contact – students' interest in participating in diverse social and cultural activities
A1. I would like to join an organization that emphasizes getting to know people from different countries. A2. I would like to go to events that feature music, dancing, food, exhibits, etc. from other countries. A3. I often listen to music from other cultures. A4. I am interested in learning about the many cultures that have existed in this world. A5. I attend events where I might get to know people from different racial backgrounds.
B. Relativistic Appreciation – the extent to which students value the impact of diversity on self-understanding and personal growth
B1. I would like to go to events that feature music, dancing, food, exhibits, etc. from other countries. B2. I can best understand someone after I get to know how he/she is both similar to and different from me. B3. Knowing how a person differs from me greatly enhances our friendship. B4. In getting to know someone, I like knowing both how he/she differs from me and is similar to me. B5. Knowing about the different experiences of other people helps me understand my own problems better.
C. Comfort With Differences – students' degree of comfort with diverse individuals (all of these items are reverse scored)
C1. Getting to know someone of another race is generally an uncomfortable experience for me. C2. I am only at ease with people of my race. C3. It's really hard for me to feel close to a person of another race. C4. It is very important that a friend agrees with me on most issues. C5. I often feel irritated with persons of a different race.

Table 3. The modified MyCAP survey used in this paper

D. Self-Reflection – students' current knowledge, beliefs and understanding
D1. When I meet new people, I try to learn about their cultural backgrounds. D2. I understand that my perspectives may not be shared by people of other cultures. D3. I will find out (from books, Internet, etc) cultural aspects of a country before visiting it. D4. I watch and/or read about international news on TV, newspaper, Internet, cell phone, iPad, etc. D5. I adjust my communication styles if I am talking to someone from a different culture. D6. I notice that people from other cultures use different gestures and body language when they talk.

The pre-online and post-online surveys serve to allow comparison of student perceptions of their own understanding of interacting with Vietnamese before and after they took the online e-learning lessons. The set of questions posed in both surveys is shown in Table 4. In addition, the pre-online survey also asked students if they agreed with the statement "It is important that today's graduates must possess good knowledge and understanding about other countries in the world." On the other hand, the post-online survey asked students to comment on general aspects of their e-learning experience. Table 5 lists the questions.

Table 4. Questions for Comparison Before and After e-Learning

Category	Question (with Answer ranking between '0' = Not at all to '10' = Very much
Culture	How familiar do you think you are, **at this point in time,** with Vietnamese culture in general?
Lifestyle	How much do you think you know, **at this point in time**, about the lifestyles, character traits (such as humor, respect of elders, tolerance of ambiguity, etc) of the Vietnamese people?
Working	How comfortable do you think you are, **at this point in time,** in working alongside Vietnamese lecturers and students during the OITP?
Socializing	How comfortable you are, **at this point in time,** in socializing with lecturers and students in the University during the OITP?
Living	How confident do you think you are, **at this point in time,** in adapting to living in Vietnam for the duration of the OITP?

Table 5. Questions on Student's e-Learning Experience

E. Experience in using DTU Online e-Learning System
E1. The web site is easy to use and navigate. E2. The web pages load relatively quickly. E3. The materials presented are easy to understand. E4. There are sufficient interactivities in the online lessons. E5. Online learning is as good as face-to-face interactions. E6. Overall, I am satisfied with learning about Vietnamese culture via e-learning. E7. Open-ended Question: List and rank in order of importance, up to maximum three areas for improvement.

Lastly, the focus group discussion allowed DTU staff to engage the students directly in gaining a better understanding of how well the online modules had prepared the students for their stay in Vietnam. This took place three weeks after their arrival in Vietnam. Table 6 lists the questions asked.

Table 6. Questions for Focus Group Discussions

F. Questions for Focus Group Discussions
F1. List 3 to 5 items of Vietnamese cultures that you make you remember the most. Explain why. F2. Identify and discuss 3 items of Vietnamese cultures that appear in reality to be similar to what you learn through online materials. F3. Identify and discuss 3 items of Vietnamese cultures that appear in reality to be different from what you learn through online materials. F4. Out of the scale from 1 to 6, please rate the level of difficulty of online quizzes about Vietnamese cultures. F5. Discuss how you engage in team-learning activities for the study of Vietnamese cultures before the visit to Vietnam. F6. Discuss the similarities and differences between interactive online materials (i.e., visual and audio) versus real-world interactive activities about the learning of Vietnamese cultures. F7. Discuss the pros and cons of learning Vietnamese cultures online versus in-person lectures and real-world activities about Vietnamese cultures. F8. Identify 3 to 5 items of Vietnamese cultures that you wish the online system had placed more focus on.

DISCUSSION OF FINDINGS

The initial section will present the results obtained from the self-evaluation survey, pre-online learning survey and post-online learning survey before the students embark on the overseas attachment to Vietnam. The section after this will focus on our findings through focus group discussion once SP students have come to Vietnam and experience everyday life there for three to four weeks.

Figure 1 shows that all the 12 students surveyed agreed with the statement "It is important that today's graduates must possess good knowledge and understanding about other countries in the world."
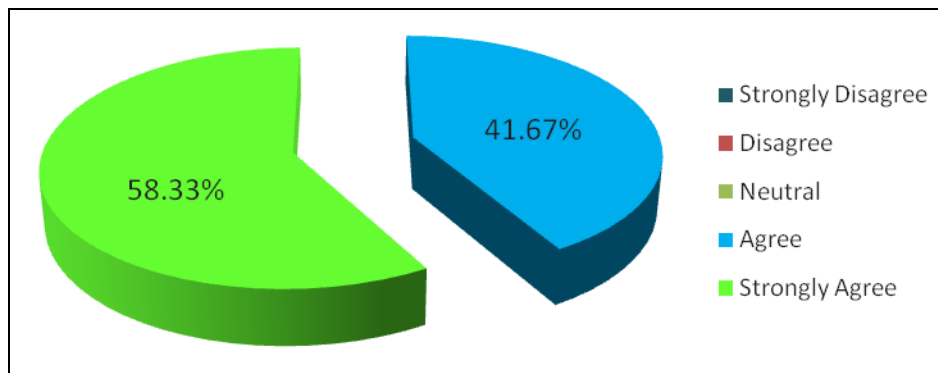
Figure 1. Student view on importance of having a global view

Figures 2(a) to (d) show the results on the students' perception of foreign culture based on questions posed in Table 2 and Table 3.
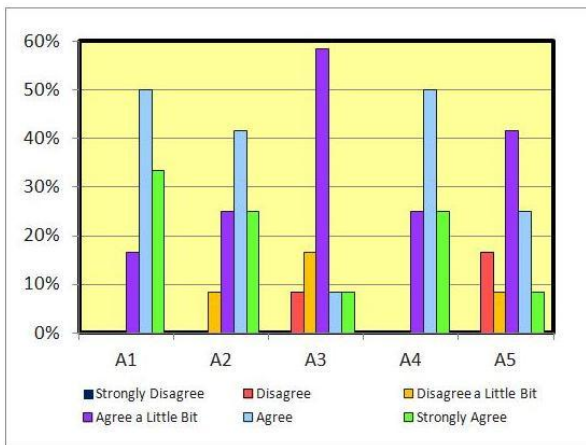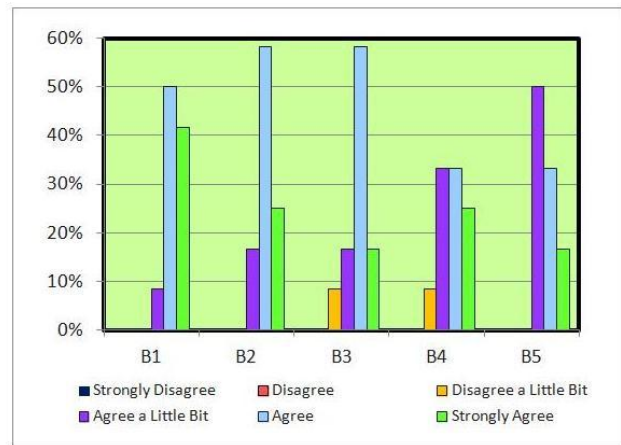

Figure 2(a). Diversity of Contact

Figure 2(b). Relativistic Appreciation

From the self-awareness survey, it would appear that SP students are relatively at ease in accepting foreign culture. This may be due to the fact that Singapore itself is a multi-cultural society, and hence our students had grown up being familiar living in such an environment and they are quite comfortable in interacting with people of different cultural background.
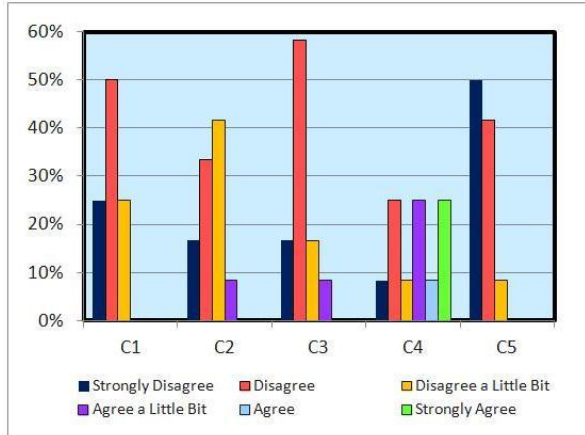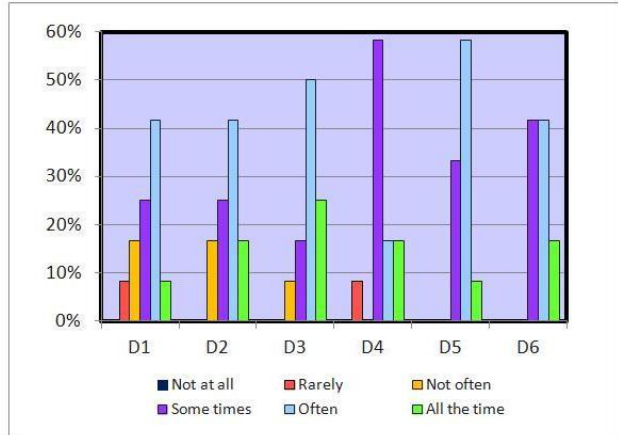
Figure 2(c). Comfort with Differences

Figure 2(d). Self-Reflection

By comparing the findings from surveys (2) and (3), we can see from Figure 3 that there is an overall improvement in all 5 dimensions of students' perception after attending the e-learning lessons. The greatest increases are in 2 categories, namely "culture" and "lifestyle". This can be interpreted to demonstrate effectiveness of the online e-learning. The relatively little difference between the 3 other categories, and their relatively high score to begin with, may point to the same comfortableness reflected in Figures 2(a) to 2(d).
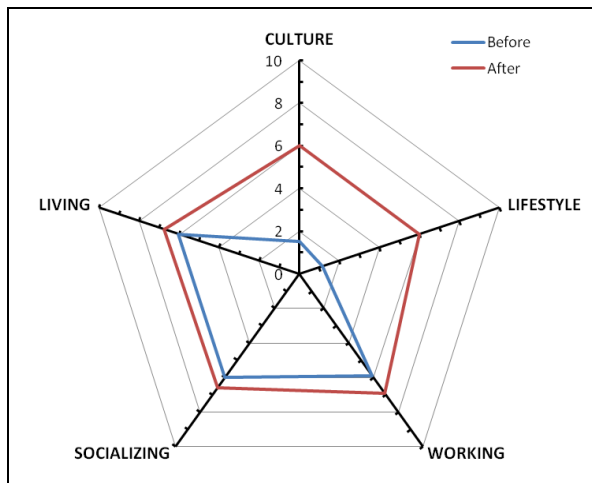

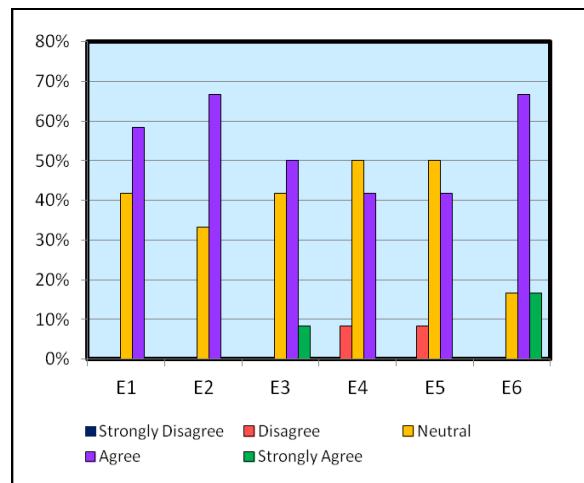Figure 3. Radar Chart Before and After e-Learning

Figure 4. Students' Perception of e-Learning

Figure 4 indicate the students' experience in using the DTU e-learning platform. Most students seemed agreeable that e-learning is as good as face to face discussion, a surprising departure from the usual response we obtained during SP's home-based learning initiative. This appears to imply that there is "less rejection" of e-learning if the subject concerns foreign culture instead of a technical one. From the responses, it can be seen that the students are still somewhat ambivalent about their e-learning experience, judging from the large number of responses with "Neutral" return for questions E1 to E5. Notwithstanding that, they nonetheless felt that e-learning is useful (response to E6) in imparting them knowledge about Vietnamese culture.

A major tool to assess SP students' interest and performance in the online Vietnamese culture course offered by DTU is the quiz given at the end of each week. Each quiz consists of 10 questions, accounting for a maximum of 10 grade points. Students are given three days from Friday to Sunday to complete the weekly quiz, and feedbacks are given back on Monday whether all students have completed the quiz or not. The quizzes, however, are not mandatory and do not contribute to any grading evaluation in the academic record of the students. SP students are simply challenged and encouraged to take the quizzes to test their knowledge about Vietnamese culture.
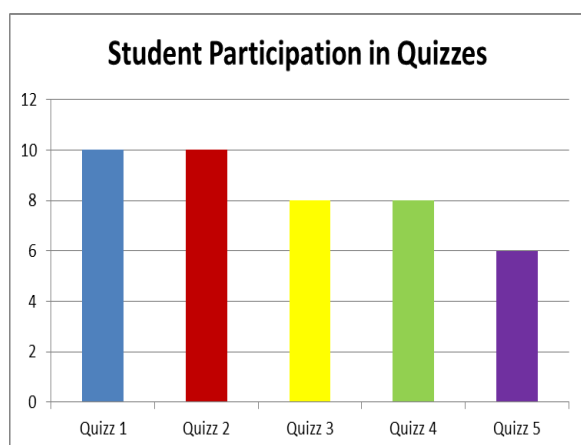

Figure 5. Number of Students
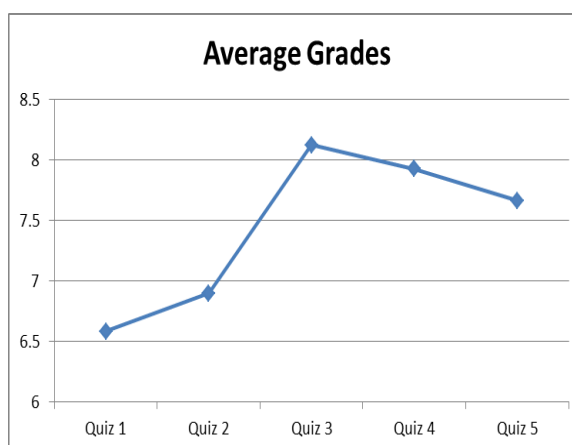Taking the Quiz each Week

Figure 6. Average Grades for
First 5 Online Quizzes

Thus far, SP students have gone through five different quizzes. Out of 12 students, with the exception of two students who have never taken any quiz (one has backed out of the OITP), the rest of the students have taken at least two quizzes, and up to six students have taken all five quizzes. So, it appears that students participating in the OITP are self-motivated to learn about Vietnamese culture before their visit to Vietnam. This is especially true when Figure 5 demonstrates that a major portion of the students still took Quiz 4 and 5 for Topic 4 and 5, which are already informed as not the focus of their study (i.e., Topic 1, 2, 3, 6 and 7). Some students gave feedback that they did not feel the quizzes are relevant to their understanding and learning of Vietnamese culture. Based on Figure 6 about the average grades across the quizzes, SP students are actually doing well, improving from their slow start with Quiz 1 and 2 for the average grades of below 7 to those of above 7.5 for Quiz 3, 4 and 5. The reason may have to do with the questions themselves, which are created by Vietnamese instructors, who hold a more native perspective about their own culture. It also may have been due to the tight schedule for the quiz completion, which did not give the students enough time to prepare for the quiz. It should be noted that students need to complete certain readings to be able to take quiz. By Quiz 5, SP students are already approaching their own final examination week, and that is reflected by a drop to only 6 students taking Quiz 5 (Figure 5). Yet, another reason may be the complicated and multifaceted nature of Vietnamese cultures, which may not have been what SP students had expected. Vietnamese cultures are, in fact, made up of three different major branches of cultures: the northern culture, which is very much similar to that of southern China; the central one, which takes after a great deal from the Champa Kingdom (i.e., a Hindi- and Malay branch of culture); and the southern one, which follows the Khmer and South-Asian Buddhist tracks of cultures. It is expected by DTU staff that the participation of SP students in the weekly quizzes will drop even further as the topics become more complicated. All of

these concerns, however, are expected to be resolved in the focus group discussions in Vietnam.

In the next section, various first-hand experiences of SP students about Vietnam will be presented and analysed so as to compare and contrast with the original knowledge about Vietnam and Vietnamese culture that the students obtained through online learning.

For the 3 to 5 items that SP students remember the most about Vietnamese cultures, they turn out to be the food, the religion (i.e., Buddhism), and everyday lifestyle of the Vietnamese people. While it is easy to understand why a change in everyday food will leave a big impression in the mind-set of every student, the reference to religion and everyday lifestyle has more to do with the cultural similarities between the Vietnamese and Singaporeans. The two nations both have Buddhism as a major religion, and the Asian family-oriented lifestyle is also common in both countries. So, in certain ways, most students still reach out for cultural values that they have in common - this implies certain amounts of cultural stereotypes however, and it would have been more interesting to see what SP students will remember the most if they come to some totally different cultural environment.

As good as it gets, it appears that the online learning experiences have brought about certain benefits. Even though the food in Vietnam is quite different, SP students were not at all shocked; instead, they easily got used to it and enjoyed it. Some students stated that the online materials helped them understand about Vietnamese diet, and before the trip, many of them had tried out Vietnamese restaurants in Singapore. In addition, the online course of DTU provided a good overview about beautiful scenic spots in Vietnam and Central Vietnam, and the students knew ahead of time where they should visit. While it sounds like the e-learning materials about Vietnam and Vietnamese cultures of DTU is some tourist-information source, the audio and visual effects of its online materials indeed has intrigued the students and provided them with the right information to prepare for their everyday life in Vietnam. Another thing that most SP students agreed on is that the online course had correctly depicted the Vietnamese people as a very friendly one as they later found out through first-hand experiences with every Vietnamese they met: from the taxi drivers to the shop owners to anyone they ran into on the streets. This at least signifies the importance of e-learning today in educating people about the universal humane interactions in other cultures no matter how much different or far away we can be in terms of geography and lifestyle orientation.

Then came what the online materials did not correctly depict of. There were two major items that shocked SP students the most: (1) The traffic in Vietnam is dangerous, and (2) Da Nang City is not as clean as expected. While these might not have anything to do with Vietnamese culture per se, they were directly related to the overall feeling of safety and wellness of every SP student and they could not just ignore. So, we come to understand that the exposure to any new culture or environment has to do with almost every little thing in life that online materials could never touch upon. Interestingly enough, Da Nang is generally considered "the safest and cleanest city in Vietnam" - and for that reason, the online course of DTU took a lot of pride in that fact about its city. Looking back at another fact that Singapore is usually dubbed "the cleanest country on earth", maybe, the expectations of our students were all in disarray between certain facts in a different environment and what they were used to in Singapore. A couple of students commented that while the traffic in Vietnam looked "very scary", no incident or accident ever happened to them from the beginning till the end of the attachment, which implied certain levels of safety. In any way, we believe that

new perspectives and exposure to unexpected cultures and environment are essential as part of the cultural learning process.

When asked to compare between the effectiveness of online learning versus real-world interactive learning about Vietnam and Vietnamese cultures, most students still answered that their in-person experiences in Vietnam were better than what they learned online. The main reason has to do with the fact that if they had any concern or question any time, they could immediately interact to get the answers. On the other hand, online learning is more of a one-way approach, and it required a great deal of self-interest to dig deeper into any issue of concern. Even with the Vietnamese instructor at the other end of the video-conferencing session being willing to answer all of the questions, the barrier was somewhat still visible. In addition, many times, the students got the answer from the Vietnamese instructor about some cultural experience(s), they had to "imagine" it out for themselves because there was no way to actually get that experience. And yet, despite their preference for in-person, first-hand cultural experiences, SP students, however, still recognized many benefits of online cultural learning, namely: (1) Selecting and providing the right information from the beginning, which helps save a great deal of researching time, (2) Offering cultural information in every little detail, which first-hand experiences usually cannot cover completely, (3) Linking up to other related cultural information of interests, which usually takes more time with first-hand interactions, (4) Providing a comprehensive archive of cultural information and experiences for use at any time, (5) Inspiring self-learning through the use of multimedia features. In the end, our students come to the conclusion that a mix of preparatory online cultural learning together with later in-person, first-hand experiences of the new cultures and environment would create the best learning curve.

One last but not least request that needs to be pointed out about the online cultural learning course of DTU was that SP students would have preferred to have more teaching on the Vietnamese language before their attachment to Vietnam. As it turned out, knowing or at least, understanding the local language to certain extent is the key to the complete experience of the cultures there. The paradox here, however, is that our students did not have the preference or motivation to learn the Vietnamese language from the beginning when they were in Singapore. They only came to realize its importance once they arrived in Vietnam. This is an essential pitfall that we will need to avoid in preparation for future overseas attachments.

CHALLENGES AND LIMITATIONS OF THE SURVEYS & FOCUS GROUP DISCUSSIONS

Not surprisingly, since SP and DTU operated on different academic calendar; it is somewhat challenging to match this project to suit the schedules of both institutions. Fortunately Singapore and Vietnam differs only by 1-hour time difference, which makes is easy for both sides to stay in contact with each other. There had to be many email exchanges between the two institutions to sort through various issues, including scheduling and re-scheduling of visitation trips, logistics, campus environmental safety and health regulations, types of projects, etc. Within SP, we also had to contend with various administrative mandates and timelines for overseas trip funding, project funding, etc. However, we are confident that once we got over this learning curve, arranging for subsequent collaborations will be easier.

While we acknowledged the importance of instilling a global mindset in our students, faculty themselves lack the necessary know-how to do so. Murray and Bollinger (2001) had noted that "providing students in a foreign language classroom with an understanding of 'culture'

that goes beyond food and national dress can be a daunting task for any teacher." Goldfinch et al, (2010) stated that "…educators' awareness of literature outlining how to improve cultural awareness and intelligence in engineering students is often limited".

We also noted the small sample size of our survey, which calls into question the statistical significance of the findings. From the results obtained, it would appear that SP students are comfortable working with fellow students of different cultural background. But, as noted by Goldfinch et al (2010), "…the reality is that many of them tend to choose to work in more homogeneous groups, and thus are not experiencing and developing well developed intercultural communication and work place skills." Furthermore, the motivations of students from the different diplomas may also be different. For example, in the case of DCHE, since the OITP is a mandatory requirement of the course, as opposed to being an 'optional' item for the 2 other diplomas. As such, not every student may put in equal efforts in the online learning process, and yet, most are still able to provide "academically correct" responses. Two students did not turn up for the first video-conferencing session and another student withdrew from the OITP citing some family financial difficulties.

Also, it is not clear whether the perceived comfortableness in dealing with foreign culture as expressed by our students in the surveys are, in fact, a reflection of their acceptance of Western (mostly American) lifestyles, and until more recently, Japanese and Korean. They may have mistaken their exposure and familiarity of these cultures and extended that acceptance to imply acceptance of all other foreign cultures as well. As noted by Rogers and Wang (2009): "It is usually only when we are in direct contact with another way of doing things, and when that way of doing things does not meet our implicit expectations that we can begin to unravel what our original expectations were and how they might differ from alternative ways of knowing and being." On hindsight, we may need to modify the survey questions to make them more explicitly related to Vietnamese culture!

In addition, this study also did not take into account the different cultural background of our students, and whether this has any influence of their perception of learning a foreign culture via e-learning. 4 of the 12 students are from Malaysia, the rest being Singaporeans. Olaniran (2009) wrote that "the different learners' cultural backgrounds affect participation, motivation, satisfaction, and overall performance in e-learning environments." Several authors had similarly written about the role and impact of cultural background on e-learning (see for example Chen et al, 2006; Milani, 2008; Rogers & Wang, 2009).

With respect to the focus group discussion in Vietnam, by then, many issues had become clear and transparent regarding the students' cultural perspectives before and after the trip to Vietnam (Clark, 2004). Still, one finding in the discussion might have indicated a limitation in our approach, namely, most SP students still found much difficulty learning about Vietnamese history and educational system despite many of their in-person experiences in Vietnam. That is, when bringing our students to Vietnam for first-hand experiences, we might have put more of a focus on everyday life activities rather than for the real learning of certain Vietnamese cultural subjects. The strong focus on the joint SD-related projects of SP and DTU also took away valuable amounts of time for our students to study Vietnamese history. Future attachments between SP and DTU probably would need to look for ways to help solve this dilemma.

MOVING AHEAD

We hope to fine-tune the collaborative process and work out a sustainable model of collaboration between the 2 institutions. We have identified several useful SD-related projects where both parties can work on, including the production of biodiesel from various sources of waste oil, kapok-based oil absorbent (kapok - *Ceiba pentandra* - is a type of tropical tree that produces cotton in its seed pods), monitoring of water quality in fish farms, using rice husk for heavy metal removal, etc.

Based on list of activities described in earlier paragraphs, we can derive a possible model for future collaboration between SP and DTU, as shown in Table 7.

Table 7. Plausible Model of Collaboration between SP and DTU

SP Calendar	Nov – end-Jan	Mar – mid-Apr	Mid-Apr – end-Aug	Sep – mid-Oct	Mid-Oct – end-Feb
	Current Academic Year Sem 2 Term-time (15-wk) Pre-OITP	Current Academic Year Sem 2 Vacation (6-wk) 5-wk OITP	New Academic Year Sem 1 Term-time (15-wk)	New Academic Year Sem 1 Term-time (15-wk)	New Academic Year Sem 1 Term-time (15-wk)
Students Learning Task	Online e-learning on Vietnamese culture using DTU system	Work on SD-themed projects in DTU (as OITP assignment)	Continue SD-themed projects in SP (as FYP)	Visitation by DTU students on SD-themed project	Finishing up SD-themed FYP
Location	SP, Singapore	DTU, Vietnam	SP, Singapore	SP, Singapore	SP, Singapore

Such collaborations also offer rich opportunities for both institutions to embark on further education research on cross-cultural issues, especially on the cultural influence in the design of online communication platforms, for example, in areas of project collaborations. Baker (2012) for example, had highlighted the importance of taking into consideration intercultural factors in e-learning designs. Preparing the students on cross-cultural awareness is only one of the many determinants of success and sustainability of such collaborations, albeit an important one. Others factors include availability of resources, especially financial ones, for staff to travel from one country to another.

CONCLUSIONS

The paper presents the outcome of a joint-initiative between Singapore Polytechnic and Duy Tan University in using online e-learning to prepare SP students prior to their overseas attachment in DTU. The results thus far indicated that online e-learning had been effective in preparing some level of awareness of Vietnamese culture before the attachment. And while the focus group discussion in Vietnam has indicated that online cultural learning still may not be as effective or interactive as first-hand cultural experiences, it is already confirmed and validated that online cultural learning has its multifaceted values through the right guidance, a comprehensive pool of cultural experiences, and the inspiration for self-learning. Together with first-hand cultural experiences, online cultural learning will bring about the best value that neither one of them can create.

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BIOGRAPHICAL INFORMATION

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