

The Cambodian experience: Exploring university students' perspectives for online learning

Julie Crews

Edith Cowan University, Western Australia

Jenni Parker

Murdoch University, Western Australia

Over the past few years there has been a rapid growth in online learning in higher education institutions in most developed countries around the world. However, many developing countries have not yet embraced this educational approach. In this paper, we discuss some of the benefits and challenges for implementing online learning in developing countries, and some of the issues students from developing countries face when studying abroad. We then describe how an online course, based on authentic learning principles (Herrington, Reeves & Oliver, 2010), was designed and implemented using a design-based research approach to provide Cambodian university students with the opportunity to experience online learning for the first time. The data findings and facilitator reflections for the initial implementation of the course are then presented and discussed. Finally, we provide recommendations for improving the effectiveness of the course design for future implementations.

Introduction

The adoption of online technologies in education is a global phenomenon that has been widely embraced within higher education institutions dominated by Western culture (Djojoputro, Nguyen & Peszynski, 2005). However, it is still relatively unknown and unused as an educational approach in many developing countries and face to face learning remains the most dominant teaching and learning approach (Edmundson, 2007; Linh, 2015; Tham & Tham, 2013).

Many developing countries are facing an escalating shortage of teachers and are struggling to meet the growing demands for education (UNESCO, 2006; 2016). A recent strategic briefing report that was commissioned to investigate new ways of measuring learning indicates the number of people wanting to undertake some form of higher education will increase by approximately 60% within the next ten years “especially in developing countries as they look to education as the doorway to global competitiveness and economic growth” (Johnson, Adams, Becker, Estrada & Cummins, 2015, p. 2).

Governments of developing countries recognise the huge potential that online learning, mobile technologies, and open educational resources offer for increasing access, equity, quality and relevance of higher education, especially for marginalised groups in rural areas. They also believe that online learning can assist in narrowing the gap between what students learn at university and the skills they will need to lead safe, secure and productive lives and increase global competitiveness. Many countries have endorsed educational reforms for improving education and have adopted internationally recognised *Frameworks*

for Action that encourage learner-centred pedagogies, online learning and the use of technologies (Parer, Sokoeun & Sidaroth, 2011; Kigotho 2014; UNESCO, 2016).

This is significant for Australian universities given that educating overseas students provides 16% (\$4.1 billion) of university revenues as illustrated in Figure 1 below (GO8, 2014). Education services are Australia's fourth largest export and account for 28% (\$15 billion) of Australia's total exports with 65% (\$9.8 billion) derived from higher education. Australian universities are well equipped to play an important role in developing international students' information communication technology (ICT) skills, media literacy, and digital citizenship skills, as well assisting Southeast Asian countries with planning and implementing online learning innovations, to increase their global competitiveness (Johnson et al., 2015; Richardson, Finholt-Daniel, Sales & Flora, 2012; UNESCO, 2016).

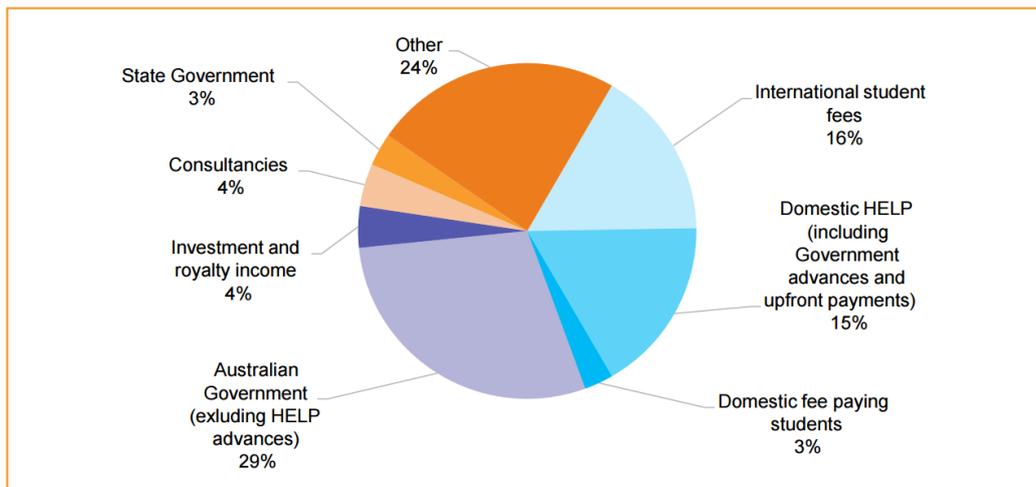


Figure 1: University revenues by source, 2012 (GO8, 2014, p. 4)

The Australian Government recognises that in a few years the Asian region “will not only be the world's largest producer of goods and services, it will also be the world's largest consumer of them” (Australian Government, 2012, p. 1) and anticipates Asia's rising middle class's wealth and mobility will have a significant impact on our Australian economy and society. The *Australia in the Asian Century White Paper* (Australian Government, 2012) provides a roadmap for advancing Australia's interests in the Asian region by 2025 and highlights the importance of strengthening our relationships and deepening our understanding of the Asian culture to benefit from their advance.

In 2010 Asia had 70 open universities and the highest number of online learners in the world. This growth corresponded with the escalation in technology use and “Asia accounted for 43 percent of the total world Internet usage” (Clothey, 2010, p. 3). However, Internet access varies widely between countries and most of this growth and usage is concentrated in China, India, Japan and Korea and there is still a wide digital

divide between countries as well as urban and rural areas within the countries. For example: Only 4.5 percent of the population in Bhutan has Internet access and Nepal has only 1 percent (Clothey, 2010).

The challenges involved with implementing online learning in developing Asian countries are plentiful. The technological challenges relating to infrastructure, costs and usability are well documented. For example: a lack of computer equipment, an unreliable electricity supply, limited and slow Internet access, as well as a lack of teacher and student skills are some of the most common challenges that need to be addressed (Elwood & MacLean, 2009; Heeks, 2002; Rajesh, 2003; Richardson, 2008). However, what is less understood are the contextual challenges associated with organisational, cultural and societal issues that will have an impact on the design and delivery of online courses in developing countries (Andersson & Grönlund, 2009).

Hofstede (2001, 2007), the seminal scholar on cultural differences, identified key traits across cultural groups in explaining human behaviour in the business context, and other scholars have explored the role of culture in defining difference (Gannon & Pillai, 2010; Nguyen, 2010, Vann, 2016). However, less is known about the role of culture in shaping attitudes and competency in the adoption and use of technology in online learning environments. Research findings by Djojoputro, Nguyen and Peszynski (2005) indicated that students from collectivist and high power-distance cultures such as those in Asia want to be guided by the lecturer in the online learning environment, and that these students rely heavily on the lecturer's information and answers whilst studying online.

Overcoming educational, cultural and religious perceptions associated with technology and its value to learning can sometimes be more difficult than implementing the technology itself. Technology is not just a tool for distributing information; it is also a medium that shapes the very construction and understanding of meaning and has the potential to magnify cultural and social differences (Wright, Dhanarajan & Reju, 2009), particularly in an online environment where communication between students and teachers is often conducted in a written format.

The Cambodian context

As a member of the Association of Southeast Asian Nations (ASEAN), a development cooperation partner and a neighbour with national interests in common, Cambodia is an important partner for Australia. Cambodia is one of the most under-developed countries in the world and was ranked 128 of 168 countries in 2012 and future progress remains challenged by low levels of literacy skills (DFAT, 2015). Khmer is the official language in Cambodia and English is considered a foreign language. However, since joining ASEAN, English proficiency has become an important commodity for communication in education and business as English is the preferred language of international communication. English is now the first foreign language taught in schools and is becoming more widely used in Cambodia, in particular in urban areas with non-Cambodians (Hashim, Chee Leong & Tra Pich, 2014).

Increasing access to the Internet has had an impact on both language literacy and technology skills. In 2015 approximately one third of the population had access to the Internet and over 94% of Cambodians owned a mobile phone (Phong & Sola, 2015). The Internet and online translation tools have provided Cambodians with greater access to up-to-date information and social media sites in both Khmer and English. Although Internet usage, particularly in rural areas, has been inhibited due to poor infrastructure and insufficient electricity supplies, the increasing use of smartphones, better mobile broadband and advancements in Khmer script technology are improving accessibility and has facilitated a rapid rise in the use of social media, notably within Cambodia's youth population (Freedomhouse.org, 2015; Todd, 2015). Research indicates *Facebook* is the most popular social media site (Business2Business Cambodia, 2015; StatCounter, 1999-2017; Tan 2016) and William Todd, the U.S. Ambassador to the Kingdom of Cambodia advised "many of Cambodia's political leaders are also using social media to engage with the youth population" (Todd, 2015, para. 6). Todd also believed the rising use of social media sites, such as *Facebook*, *Twitter* and *YouTube*, combined with investments in education and technology has the potential to better inform and prepare Cambodia to compete in the global marketplace.

As the Cambodian economy diversifies there will be an increased demand for education within both the vocational and higher education sectors, and the capacity for online learning to meet this growing demand represents a promising option (UNESCO, 2016). Cambodia's first plan for using ICT in education was declared in 2004 with the adoption of the *Policy and Strategies: Information and Communication Technology in Education in Cambodia* policy that identified ICT as a significant strategy for improving the quality of education and preparing future workers for the global knowledge-based economy with a target date of 2015 for full implementation (Elwood & MacLean, 2009). The Ministry of Education, Youth and Sport, Cambodia (MoEYS), United Nations Educational, Scientific and Cultural Organization (UNESCO), the Open Institute (OI), and the Asian Development Bank (ADB) pursued the development of ICT in the tertiary education sector and assimilated software and hardware resources into six provincial teacher-training centres and the National Institute of Education (NIE) in 2007. Provincial students represent the majority of Cambodia's potential learners and an example of an online learning project that successfully delivered tertiary educational programs in Cambodia was the *Provincial Business Education* through the Community Information Centres (CICs). Its success was largely due to its ability to offer online educational opportunities to students living in rural locations, eliminating the need to move to a city location (Abdon, Ninomiya & Raab, 2007). However, exorbitantly high costs, limited infrastructure and other issues continue to hinder the implementation of ICT, and technology has not been fully embraced for education in Cambodia (Elwood & Maclean, 2009; MoEYS, 2004; Richardson, 2008).

In recent years Cambodia has made remarkable progress in education "through implementation of EFA [Education for All] National Action Plans" (Naron, 2015, p.1), particularly in early childhood and primary education. They are now focusing on "improving the quality of education" and have recently implemented a Teacher Policy Action Plan to "ensure that the basic and higher education are relevant for the development aspirations of Cambodia" (Naron, 2015, p.2). The exponential growth in

Cambodian university education is already apparent with a 21% increase in the number of students enrolled in university between 2000 and 2010. The estimated number of students for 2010 was 100,000 and actual enrolments were 168,085 - a 68% increase on the projected figure (Parer, Sokoeun & Sidaroth, 2011).

Cambodia's strong economic growth and young population has seen a flow of students moving to Australia over the past decade to enhance their educational qualifications (DEFAT, 2016). Although currently it is a small market, if the trend continues "there could be over 2,000 enrolments from Cambodia in Australia by 2020" (DFAT, 2015, para. 15). Australia has established relationships with leading education agents in Cambodia and continues to expand its university awards scholarship program for Cambodians studying in Australia (DFAT, 2015, 2016).

Di Biase (2015) suggested that understanding the "disparity between policy and practice is critical" (p. 1) for educators when working with intercultural teachers and students. Assisting Cambodian university students to develop essential ICT and online learning knowledge and skills will not only help Cambodia achieve their educational goals, it may also help Australian universities to continue to attract and retain international students from Cambodia, by providing a smoother transition into Australian learning environments.

This study

Prior to undertaking the study, the first author had travelled to Cambodia and established a connection with teachers at the Build Bright University (BBU) Siem Reap campus in northwest Cambodia. Conversations with university teachers revealed that the university did not have an existing online learning program nor any prior knowledge of this type of learning environment. However, both staff and students appeared keen to experience online learning and this ignited a discussion about the viability of the researcher designing and implementing an online course for their university.

Ongoing discussions with teaching staff at the university revealed a range of issues that would need to be addressed for designing and implementing an online course for their students. For example: students attending the university had no prior knowledge of or engagement with online learning, the computer technology used by students was quite outdated, and the university's Internet connection was very slow and unreliable as power outages were common in the city. Further discussions also identified that no form of online technology was incorporated in their day-to-day teaching and it was evident that a teacher-directed classroom pedagogy was firmly embedded in the university's approach to teaching the curricula. Despite the potential barriers the Cambodian teachers were keen to explore online learning and embraced the opportunity for a cohort of students to participate in a course designed and facilitated by Australian teachers.

Online learning is also commonly referred to as: *distance learning*, *e-learning* (or *elearning*), *web-based learning*, *digital learning*, and *virtual learning* (Moore, Dickson-Deane & Galyen, 2011;

Siemens, Gasevic & Dawson, 2015). These terms are often used interchangeably which raises definitional issues. In this study, we refer to *online learning* as “Education in which instruction and content are delivered primarily over the Internet” (Watson & Kalmon cited in International Association for K-12 online learning, 2011, p. 7).

The aim of the online course was twofold; 1) to provide Cambodian students with the opportunity to explore the features and affordances of online learning and 2) to provide a context where students could practise their English language skills.

The study aimed to answer the following research questions:

1. What cultural, technological and pedagogical challenges do online educators face for designing, developing and delivering online learning in a Cambodian context?
2. What knowledge, skills and attitudes do Cambodian students need to develop to become successful online learners?

The following section describes how the online learning course was designed, implemented and evaluated.

Methodology

A qualitative design-based research (DBR) approach was selected for the study as a qualitative methodology assists in shedding light on phenomena that are poorly understood (Marshall & Rossman, 2006) and would enable researchers to gain a better understanding of the ‘how and why’ of respondents’ perceptions (Brand, 2009).

Design-based research (DBR) provides a robust design and evaluation framework for: addressing complex problems in real contexts in collaboration with practitioners, integrating known and hypothetical design principles with technological advances to render plausible solutions to these complex problems, and conducting rigorous and reflective inquiry to test and refine innovative learning environments as well as to define new design principles. (Reeves, 2006, p.58)

The purpose of design-based research is not to test whether one theory is better than another, but rather “to create a practical and effective intervention for an existing problem” (van den Akker, 1999, p.9) through an iterative process of *evolutionary prototyping* of the designed intervention (Reeves, 2006). The designed intervention for this study was an online course that provided the opportunity for Cambodian undergraduate students in their final year of a 3-year business degree at BBU to practise their English language skills within an online learning environment using a few basic communication and collaboration tools. The tools and tasks incorporated in the course are described in the following course design and implementation section.

Participants were verbally invited by their teachers to participate in the online course and 40 students (25 male, 7 female and 8 not known) plus three university teachers (2 female and 1 male) attended the face to face introduction session conducted by the first author at

the university in Cambodia. In accordance with ethical human research practice the students were provided with an information letter and consent form during the introduction session conducted prior to commencing the online course, to ensure they understood the purpose of the research and the research procedures.

Qualitative data collection and analysis methods, which are explained in the following paragraphs, were selected to enable the researchers to gather detailed information from a variety of sources (Patton, 2015). Qualitative data would allow us to identify links between the learning environment, the participants' skills and knowledge, and cultural factors that influenced student engagement and learning in the online environment.

Planned data collection methods included:

1. Before: Participant background questionnaire consisting of 10 short answer response items to identify the participants existing technology skills, technology access and study habits (see Appendix 1);
2. During: Participant comments and artefacts made during the normal progression of the course (e.g., Forum posts, blog posts and comments, videos, emails and *Skype* conversations);
3. After: Student responses to an anonymous online questionnaire about their online learning experience and facilitator reflections.

Data were analysed using Miles and Huberman's (1994) interactive model of qualitative analysis which comprises three types of analysis activities: data reduction, data display, and conclusions conducted as an interactive cyclical process for drawing and verifying conclusions from the data to answer the research questions.

An online course was designed to provide the opportunity for Cambodian students to explore the affordances of online learning whilst practising their English literacy skills (reading, writing and verbal).

Course design and implementation (DBR Phase 2)

An authentic learning framework (Parker, 2011) shown in Figure 2 provided overall guidance for the design and implementation of the course. This framework highlights the importance of an authentic context and authentic tasks (Herrington, Reeves & Oliver, 2010) and enabled the course to be tailored to meet the cultural context of the target group (Leppisaari, Herrington & Im, 2013).

The online course was designed to be delivered via a learning management system (LMS) as this is the most common technology used by higher education institutions across the globe to deliver online learning programs. It was not feasible to use an existing LMS within the researchers' institutions as the participants were not enrolled in either of their universities. Therefore, a *Moodle* site already hosted and administered by the second author

(eLearn Open eCourses, <http://elearnopen.info/ecourses/>) was deemed the most appropriate LMS platform to use for this study. *Moodle* is an adaptable and user-friendly online learning environment used by many education institutions and continues to be adopted worldwide (Costello, 2014). While not an expected outcome of the project, the *Moodle* platform has the capacity for universities in developing countries such as Cambodia, to develop, maintain and continue their own online learning programs in the future. Importantly, *Moodle* offers comprehensive support for its users and is relatively inexpensive to maintain even for large groups of users, compared to other platforms, such as *Blackboard* (Costello, 2014). Therefore, *Moodle* also has the potential to make education accessible to a much broader audience than those attending university (e. g., large rural communities) and could address the primary need for increasing much needed English literacy skills required for developing countries entering the global education and business environment.

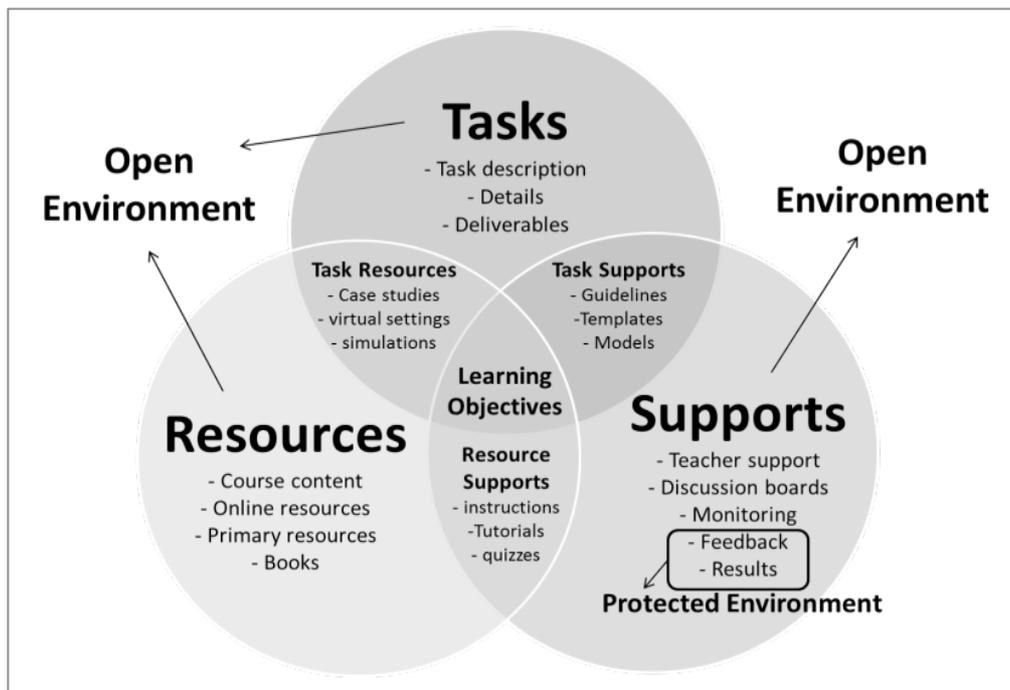


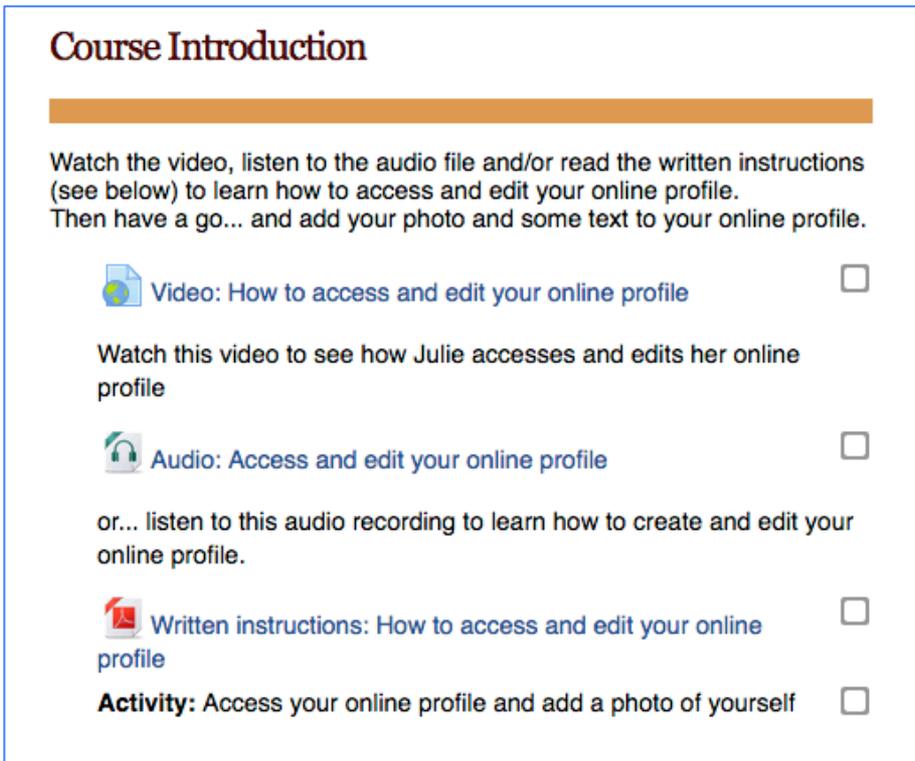
Figure 2: Authentic online learning framework (Parker, 2011)

Bollag and Overland (2001) advised that for an online learning environment to be successful it must be suited to the specific cultural needs of the group. In designing the course, issues identified in the initial discussion with the Cambodian university teachers such as English language proficiency, lack of online technology knowledge, and new student-centred learning approaches were addressed.

The participants' written and verbal English proficiency was expected to be quite low and although a Khmer language pack is available for *Moodle* the decision was made to only use

English in the online course. The intention of the course was not to teach participants English, but rather to provide the opportunity for participants to practise their English language skills.

Participants had no prior exposure to online learning, therefore it was also important to use appropriate methods to introduce them to new terminology and how to use the online tools. Video was deemed the most beneficial instructional medium as it provided students with both aural and visual cues. Being able to listen to clearly articulated verbal instructions and explanations using plain English and observe how the facilitator performed each task should assist participants to understand what they needed to do to complete the task. Due to the large bandwidth requirements for streaming videos, we expected to encounter bandwidth and Internet issues. Therefore, we also included audio podcasts and written instructions with images that could be downloaded and read offline. Figure 3 illustrates the instructional formats and the language level used in the online course.



The screenshot shows a 'Course Introduction' page with a blue border. At the top, the title 'Course Introduction' is in a bold, dark red font, followed by a thick orange horizontal bar. Below this, the text reads: 'Watch the video, listen to the audio file and/or read the written instructions (see below) to learn how to access and edit your online profile. Then have a go... and add your photo and some text to your online profile.' There are three main instructional items, each with an icon and a checkbox on the right: 1. A video icon (blue and green) next to the text 'Video: How to access and edit your online profile' with a checkbox. Below it, the text says 'Watch this video to see how Julie accesses and edits her online profile'. 2. An audio icon (green and white) next to the text 'Audio: Access and edit your online profile' with a checkbox. Below it, the text says 'or... listen to this audio recording to learn how to create and edit your online profile.'. 3. A document icon (red and white) next to the text 'Written instructions: How to access and edit your online profile' with a checkbox. Below it, the text says 'Activity: Access your online profile and add a photo of yourself' with a checkbox.

Figure 3: Instructional formats and language level

Research conducted by Djojoputro, Nguyen and Peszynski (2005) indicated that learners from an Asian culture preferred a more traditional *teacher-centred* rather than *student-centred* learning approach. However, online learning research indicates that successful online learning requires well-developed self-regulated learning skills (Harding, Galvao de

Barba, Goh, 2016). To address this cultural issue, the tasks were scaffolded to allow students to move from simple to more complex tasks, with more intense coaching included for the initial tasks with a gradual reduction of scaffolding in subsequent tasks to help students develop their self-regulated learning skills.

In Cambodian culture, a personal presence is highly regarded. Therefore, a face to face introduction workshop was included in the course design to provide the opportunity for the participants to meet one of the facilitators in person before commencing the online course, which would help to establish an initial rapport between the participants and the facilitator and strengthen the existing professional relationship between the BBU teachers and the facilitator. The face to face workshop also enabled the facilitator to explain the research purpose and procedures and assist the participants to access and enrol in the online course.

The course was implemented in mid-2014 and scheduled to run for eight weeks. During week-one the face to face introduction workshop was conducted on the Build Bright University Siem Reap campus. The 1.5-hour workshop was offered to students and BBU teachers, with a choice of five different times over a three-day period in order to avoid clashes with the participants' other classes. The 7-week online course commenced the following week and participants were expected to complete four tasks on the LMS. The tasks were designed to encourage students to engage with fellow participants and the facilitators in the online learning environment using a few basic communication and collaboration tools (i.e. discussion forums, blogs and wikis) to practice reading, listening and writing in English. Table 1 illustrates the learning schedule and relationship between the learning objectives and the tasks.

Table 1: Learning schedule and relationship between learning objectives and tasks

Week	Learning objectives	Tasks
Week 1 Face to face classroom session	Introduction to help students access the online course	<ul style="list-style-type: none"> • Fill-in background questionnaire • Create a <i>Moodle</i> account • Enrol in the online course • Explore the LMS features
Week 2 Online	1/ Access and edit your online profile	<ul style="list-style-type: none"> • Access your online profile and add a photo of yourself
Weeks 3 and 4 Online	2/ Access and read a forum discussion and add an entry on a forum	<ul style="list-style-type: none"> • Read the facilitator's introduction post and then post a short introduction about yourself on the Introduction forum
Weeks 5 and 6 Online	3/ Write a blog post and add a comment on a blog post	<ul style="list-style-type: none"> • Write a blog post about your town/city • Read another person's blog post • Add a comment on their post
Weeks 7 and 8 Online	4/ Access, read and respond to questions on a group wiki page	<ul style="list-style-type: none"> • Answer a few questions about your online learning experience in this course on the feedback wiki page.

The course content was accessible 24/7 and students were encouraged to work at their own pace and complete the online activities around their existing university studies and expected power outages. A suggested task schedule was provided to students indicating that each task should be completed within a two-week period to help them manage their time and complete all tasks before the end of the course. As the online course was not an official component of their university program, no marks were awarded for completing the tasks.

Findings and discussion (DBR Phase 3)

In design-based research the findings from the first iteration of the intervention are used to identify recommendations for improving future iterations of the course. The findings for the first iteration are reported and discussed using the data collection methods as sub-headings as the data collection methods were designed to capture specific data. For example, the background survey provided data on the participants level of knowledge and skills using a range of technologies before commencing the course, whereas the workshop activities and online course statistics provided data on the participants progress through the course, and the student comments and facilitator reflections were expected to identify any specific issues that could be improved in future courses. Participant quotes have been reproduced faithfully including spelling errors therefore (*sic*) has not been used and pseudonyms have been used to identify different participants.

Background survey

The purpose of the background survey (Appendix 1) was to obtain an overview of the participants, the technologies they had access to how they used the technologies and finally their existing exposure to online social media tools. 32 students (25 male and 7 female) completed the survey during the classroom workshops in Week 1 with the assistance of the Australian facilitator. Eight students who attended the workshops did not return a completed survey.

Most students were between 20 to 25 years of age and all of them owned a mobile phone. This finding is not surprising as Elwood and Maclean (2009) reported that “one person in four has a cell phone” (p.68) and 92.5% of the population had mobile signal coverage. However, only 65% had their own computer. Responses to phone and computer use are shown in Table 2.

Table 2: Participant phone and social media use

Questions	Highest	%	2nd	%	3rd	%	4th	%
Q.4 Phone use	Calls	88	Txt msg	81	Internet	69	Email	38
Q.5 Favourite phone apps	<i>Facebook</i>	63	<i>Skype / Tango / Line</i>	44	<i>Google / Yahoo</i>	13	Study/ games	9
Q.9 Social media	<i>Facebook</i>	81	<i>Skype</i>	31	<i>YouTube</i>	6	<i>Twitter</i>	3

Students used primarily their phones “as the technological choice for many tasks” (Elwood & MacLean, 2009, p.70), such as making calls, sending and receiving text messages, accessing the Internet and their email. This correlates with a study conducted by Phong and Sola (2015) that identified 94% of Cambodians owned a phone, whereas only approximately 30% had access to the Internet.

The most common apps and social media tools were *Facebook* and VOIP call/chat tools such as *Skype*, *Tango* and *Line*. The high use of social media suggests the principal use of mobile devices was for leisure and communicating with family and friends rather than as resources to support their learning. This correlates with Phong and Sola’s (2015) finding that “In Cambodia Facebook is accessed mainly from phones, with 97% of users having it on their phones” (p. 23). There was no evidence to indicate whether they used their mobile devices for university purposes. However, as the students' *usual* learning experiences are embedded in face to face teacher-directed lessons with textbooks and notebooks central to the classroom learning, again this is not surprising.

The findings for Q.9 “Do you use any of the following social media?” have been included under phone and social media use, although the researchers had anticipated that responses to this question would identify students’ use of social media on their computer. However, despite this question being situated within the section of questions related to computer use the wording of the question did not specify *how* students accessed social media. The similarity of the responses to Q.5 “List your favourite Apps on your phone” and the high response to Internet use on their phones (Q.4) suggests that many students *may* have accessed social media sites via their phones rather than via their computer, although there is insufficient evidence to confirm this.

The results shown in Table 3 indicate that students used their computers primarily for university work. The low rate of home computer ownership coupled with regular power outages and unreliable Internet speed suggests students may have relied more on their smart phones for purposes that were not clearly defined in the survey questions.

Table 3: Participant computer use in general and specifically for university purposes

Questions	Highest	%	2nd	%	3rd	%	4th	%
Q.7 Computer general use	Assignments	72	Internet	47	Videos	22	Email	0
Q.10 Computer university use	Assignments	66	Research	22	Dictionary	9	Email	3

Approximately eight to ten students and a teacher attended each workshop session, and all students advised the main reason for participating in the course was to improve their English language skills.

Classroom workshop activities

The facilitator expected students to have difficulties completing the orientation activities, due to their low level of English literacy skills and lack of familiarity working in an online environment. Therefore, during the orientation sessions, the facilitator verbally and visually explained how to create a *Moodle* account and demonstrated how to enrol in the online course. A printed orientation guide with step-by-step instructions and images was also provided to students so that they could refer to the instructions while they completed these activities. Aside from the expected language and technology issues the facilitator encountered other issues, such as lack of experience using email, forgotten passwords or no email accounts, that hindered some students' ability to complete the orientation activities. To overcome these issues the facilitator was required to provide individual assistance to students in every workshop to help them setup their *Moodle* account and enrol in the course. By the end of the workshops 38 students (25 males, 7 females, and 6 gender unknown) had successfully created a *Moodle* account and enrolled in the online course (LMS).

Student online progress and LMS statistics

Whilst most of the students were able to complete the orientation activities in a classroom setting with the facilitator's assistance, very few managed to independently complete the online Tasks. As time progressed and despite the facilitators' encouragement via regular announcements on the LMS, it was evident that students were not actively engaged in the online Tasks as shown in Table 4.

Table 4: Task description and % of students who completed each task

Task description	% completed
1. Profile photo	48%
2. Forum post	10%
3. Blog post	0%
4. Wiki entry	0%

For the first Task (week 2) almost 50% of students uploaded their photo to their online profile. However, for Task 2 (weeks 3 and 4) only 10% added a post to the introduction forum and no one completed Task 3 (weeks 5 and 6). The facilitators decided not to open Task 4 (weeks 7 and 8) because it was obvious that students were struggling to engage with the earlier tasks.

A review of the LMS statistics revealed that although many students didn't complete the Tasks, they did access the online unit and look at the instructions and resources as shown in Table 5.

Table 5: % of students who completed each task, viewed each task and total views for each task

Task description	Students completed	Students viewed	Total views
1. Profile photo	48%	79%	174%
2. Forum post	10%	68%	245%
3. Blog post	0%	53%	53%

Although only 50% of students completed Task 1, many viewed the instructions and resources (79%) and some students viewed the resources multiple times (174%). As the unit progressed, fewer students completed the Tasks, however the number of students who viewed the resources remained relatively high.

For Task 2 only 10% of students completed the Task, however 68% of the students viewed the Task 2 resources. This suggests that students were interested in watching and listening to the videos and viewing the examples provided by the facilitator, even though they didn't complete the Task. This is consistent with student comments made during the classroom workshops that they were keen to improve their English. Although it appears they were not as keen to practise their writing skills. The following responses to the facilitator announcement in the introduction forum illustrate the variety in the students' English writing ability.

Please introduce yourself to your fellow students.

Hi I am [facilitator name] and I am enjoying working online with the students of BBU.

Click on reply and add a short sentence about yourself (Facilitator 1).

One student responded, "Hello Dr [facilitator name] I am [student name] study in the BBU university. I am very glade with your" (Student S, Forum post; this is the entire message. It is not known why the message was not completed. Perhaps the student pressed the post key in error or experienced a technical glitch). Another student replied:

I am in faculty of Science of Education and language. I am really happy that I could join this programs that provide the online course for free, and I will enjoy it very much. I hope the reading will provide more about animals and birds too. Take care (Student B).

Student comments made via email

In an attempt to encourage students to complete the online activities the facilitator sent a personal email to each student. The following student response indicates that some students did not check the student email that they used to create their *Moodle* accounts:

Dear (facilitator name), How are you? I never see you sent email for us. Do you busy with your work? I would like to change new email from this to my personal email. Could I change it? (Student 3)

The following student response supports the issues that some students experienced when creating their accounts as the email they provided was not their email address:

Oh my Lecturer! Thank you so much for your SMS. You should call me, because this is my grandfather's name (Student 4)

Student comments made via Skype

At the end of Week 6, the facilitator decided to try once more to engage students via *Skype* communication. Initially no one responded; then a few weeks later one student posted a very short apology with no further details, “Sorry that I am really late to reply” (Student 5) and another sent a more detailed response about finishing her final exams and taking a holiday:

Hi (facilitator name)! How are you? How about your everyday working now, is it so busy? I have just finished final exams, and I am also going to continue for studying in year 2 on Monday 11, August. You know?? After finishing exams, I and my classmates went to visit some temples in [name deleted] and having lunch together. It was a wonderful holiday for us because we not only visiting temples, but we explained each others about the stories on the wall of it. We also took a lot of photos. I will post it later. (Student 5)

Due to the limited data obtained from the study we can only hypothesise on the reasons for the lack of student engagement via *Skype*. Perhaps one reason, reported by Nyugen (2010), may be attributed to the cultural context, as in Cambodia students hold a teacher in high esteem and they do not communicate with their classroom teachers in the same way that Western students may with their teachers. Therefore, an expectation that the students would feel confident in initiating online communication directly with the facilitators may have been too ambitious.

Facilitators' reflections

The facilitator reflections confirmed that most learners struggled to complete the activities. It was interesting to note that when the students were setting up their online accounts to access *Moodle* in the orientation session, that few of them could recall their email account passwords. It appears that many students did not use email on their smart phones very often, or at all. This finding is supported by the data collected in Q.4 where only 38% of students identified they used their phone for email purposes. Further, many students appeared overwhelmed at navigating through the required steps to set up their account even though a Cambodian teacher was present to assist with language barriers and computer skills.

The course was designed to address the students' minimal level of English language competency and lack of online learning experience. However, it appears our expectation that students could create accounts and learn to independently navigate the online learning platform within a short face to face session may have been overly ambitious. This was further exacerbated by the fact that the online learning activities although 'real' in the context of online learning, and developing student's English language skills, they were not embedded in the university learning content and assessments. It may be beneficial for

students to learn about common online technologies in their native Khmer language to assist their transition into an English online learning environment.

The teachers at the university, while interested in seeing how a learning management system operated, did not access or engage with the LMS. All the teachers participated in the face to face orientation session and created an LMS account. However, only one attempted to complete any of the online activities and none of the teachers communicated online with any of the students. It appears the teachers did not associate the LMS as a *learning tool* to support their teaching as the questions they asked during the orientation sessions gave the impression that they thought of *Moodle* as some sort of novel online game.

The findings highlight the need for teachers to be involved in the reform effort, to have a clear understanding of the pedagogical approaches, and sustained mentoring support whilst transitioning students from a teacher-centric transmission mode of learning to a more student-centred approach (Di Biase, 2015; Schweisfurth, 2013).

Conclusion

This study represents the first stage in establishing key learning and research partnerships in the Asian area for developing online learning initiatives suitable for international students. It aligns with the Australian Government's aid program objectives (DFAT, 2016) that seek to develop a more comprehensive understanding of the Asia-Pacific region, specifically in relation to technological developments and online learning.

The most significant finding in this study is that although students did not complete the Tasks they did actively engage with the content. It was evident that they were interested in online learning, although more work is required to develop both teacher and student knowledge, skills and confidence to prepare them for successful online learning.

Although the study generated minimal student data it did provide an insight into the current cultural climate within a Cambodian university context and the experience and attitudes of students' in relation to technology, student-centred learning and motivation. By improving our understanding of the contextual issues, we hope to build stronger professional relationships with the Cambodian teachers and initiate discussions about learner-centred pedagogies that are necessary for successful online learning. We would also like to initiate a more *participatory approach* for designing and implementing future iterations of the course to meet the social, cultural and learning needs of their students (Di Biase, 2015).

Suggestions about how to better prepare teachers and learners for online learning are discussed below.

Recommendations for future iterations

The analysis of participant responses and facilitator reflections from this initial iteration of the course identified some issues that were discussed in the findings. Below are recommendations for future research and ideas for developing future online courses.

1. Investigate the potential for Australian facilitators to spend a block of time in Cambodia to work with Cambodian teachers to identify and build their online learning skills and knowledge. This recommendation is in line with the Cambodian Government's objective of "Build twinning programmes or networks with HEIs abroad and collaborate with the private sector" (MoEYS, 2014, p. 6).
2. Involve Cambodian teachers in the analysis, design, implementation and evaluation of future online courses so that they become partners in the online learning initiative (Di Biase, 2015). Embed the online course within an existing English module taught in the Cambodian University to provide a more authentic learning experience and so that online learning terminology can be taught to students prior to commencing the online course.
3. Assist teachers and students with moving to new learner-centered approaches and implement the change using small steps (Di Biase, 2015). Start with a blended learning approach—a combination of face-to-face classes with online activities—and embrace the best aspects of each approach.
4. Provide continuing professional development for Cambodian teachers and online mentoring and coaching support for both teachers and students.
5. Investigate the potential for using *Mobile Moodle* as the learning platform so that students can access it via their smart phones. Providing "education through a device that is already commonly in use, even in remote and developing areas" (Clothey, 2010, p. 5) may result in more reliable access and better student engagement.

This study has identified constructive suggestions for implementing online learning in developing countries that may assist in bridging the cultural differences gap and maximise international students' success when studying online or within Australian universities.

Finally, one of the most important findings of this preliminary study is that creating a well-designed online course does not automatically foster online engagement. Teachers and students need the opportunity to: transition from teacher-centric to student-centric learning approaches, understand the benefits of online learning, become familiar with working in an online space, and learn how to become more self-regulated learners, before they can successfully interact with the content, peers and teachers in an online learning environment.

References

- Abdon, B. R., Ninomiya, S. & Raab, R. T. (2007). Elearning in higher education makes its debut in Cambodia: Implications of the Provincial Business Education Project. *International Review of Research in Open and Distance Learning*, 8(1), 1492-3831.
<http://www.irrodl.org/index.php/irrodl/article/viewArticle/333>

- Andersson, A. & Grönlund, Å. (2009). A conceptual framework for e-learning in developing countries: A critical review of research challenges. *The Electronic Journal of Information Systems in Developing Countries*, 38(8),1-16.
<http://www.is.cityu.edu.hk/staff/isrobert/ejisd/38-8.pdf>
- Australian Government (2012). *Australia in the Asian century white paper*. Department of Defence.
http://www.defence.gov.au/whitepaper/2013/docs/australia_in_the_asian_century_white_paper.pdf
- Bollag, B. & Overland, M.A. (2001). Developing countries turn to distance education. *Chronicle of Higher Education*, 47, 40, A29-22.
<http://www.chronicle.com/article/Developing-Countries-Turn-to/33378>
- Brand, V. (2009). Empirical business ethics research and paradigm analysis. *Journal of Business Ethics*, 86(4), 429-449. <http://link.springer.com/article/10.1007/s10551-008-9856-3>
- Business2Business Cambodia (2015). The rise and rise of Facebook in Cambodia.
<https://www.b2b-cambodia.com/articles/the-rise-and-rise-of-facebook-in-cambodia/>
- Clothey, R. (2010). Current trends in higher education: Expanding access in Asia Pacific through technology. *Comparative & International Higher Education*, 2(2010), 3-5.
<http://www.higheredsig.org/cihe/Number02-02.pdf>
- Costello, E. (2014). Opening up to open source: Looking at how Moodle was adopted in higher education. *Open Learning*, 28(3), 187-200.
<http://dx.doi.org/10.1080/02680513.2013.856289>
- Department of Foreign Affairs and Trade [DFAT] (2015). *Cambodia country brief: Bilateral relations*. <http://dfat.gov.au/geo/cambodia/pages/cambodia-country-brief.aspx>
- Department of Foreign Affairs and Trade [DFAT] (2016). *Aid program performance report 2015-16: Cambodia*. <http://dfat.gov.au/about-us/publications/Documents/cambodia-appr-2015-16.pdf>
- Di Biase, R. (2015). Policy, pedagogy, and priorities: Exploring stakeholder perspectives on active learning in the Maldives. *Prospects*, 45(2), 213-229.
<http://link.springer.com/article/10.1007/s1125-015-9346-1>
- Djojoputro, L., Nguyen, L. & Peszynski, K. (2005). Cultural dimensions in online learning. In *Proceedings of the 16th Australia Conference of Information Systems*, 29 Nov - 2 Dec 2005, Sydney, Australia.
<http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1139&context=acis2005>
- Edmundson, A. (2007). *Globalized e-learning cultural challenges*. Hershey, PA: Information Science Pub. <http://public.eblib.com/choice/publicfullrecord.aspx?p=272076>
- Elwood, J. & MacLean, G. (2009). ICT usage and student perceptions in Cambodia and Japan. *International Journal of Emerging Technologies & Society*, 7(2), 65-82.
<http://unpan1.un.org/intradoc/groups/public/documents/unpan/unpan046135.pdf>
- Freedomhouse.org (2015). *Freedom on the net 2015: Cambodia* [report].
https://freedomhouse.org/sites/default/files/resources/FOTN%202015_Cambodia%282%29.pdf
- Gannon, M. J. & Pillai, R. (2010). *Understanding global cultures: Metaphorical journeys through 29 nations, clusters of nations, continents, and diversity* (4th ed.). Thousand Oaks, CA: SAGE.
- GO8 (Group of Eight Australia) (2014). *Policy Note: International students in higher education and their role in the Australian economy*.

- https://go8.edu.au/sites/default/files/docs/publications/international_students_in_higher_education_and_their_role_in_the_australian_economy.pdf
- Harding, S., Galvao de Barba, P. & Goh, F. (2016). Teaching self-regulated learning skills. *Teacher Magazine*, 11 October. <https://www.teachermagazine.com.au/articles/teaching-self-regulated-learning-skills>
- Hashim, A., Chee Leong, Y. & Tra Pich, P. (2014), English in higher education in Cambodia. *World Englishes*, 33(4), 498-511. <http://dx.doi.org/10.1111/weng.12110>
- Heeks, R. (2002) Information systems and developing countries: Failure, success, and local improvisations. *The Information Society*, 18(2), 101-112. <http://www.tandfonline.com/doi/abs/10.1080/01972240290075039>
- Herrington, J., Reeves, T. C. & Oliver, R. (2010). *A guide to authentic e-learning*. New York: Routledge.
- Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations*. London: SAGE.
- Hofstede, G. (2007). Asian management in the 21st century. *Asia Pacific Journal of Management*, 24(4), 411-420. <http://link.springer.com/article/10.1007/s10490-007-9049-0>
- International Association for K-12 online learning (iNACOL) (2011). *The online learning definitions project*. <https://www.inacol.org/resource/the-online-learning-definitions-project/>
- Johnson, L., Adams Becker, S., Estrada V. & Cummins, M. (2015). *Measuring learning: An NMC Horizon Project strategic brief*. Austin, Texas: The New Media Consortium. <https://www.nmc.org/publication/nmc-strategic-brief-measuring-learning/>
- Kigotho, W. (2014). Higher education challenges post-2015 - UNESCO. *University World News*, Issue 319 (9 May 2014). <http://www.universityworldnews.com/article.php?story=20140508162141672>
- Leppisaari, I., Herrington, J., Vainio L. & Im, Y. (2013). Authentic e-learning in a multicultural context: Virtual benchmarking cases from five countries. *Journal of Interactive Learning Research*, 24(1), 53-73. <http://www.learntechlib.org/p/38488>
- Linh, T. (2015). Vietnam's ambitious education reform plans come in for praise. *Thanhniem News*, Hanoi, 11 November. <http://www.thanhniemnews.com/education-youth/vietnams-ambitious-education-reform-plans-come-in-for-praise-53391.html>
- Marshall, C. & Rossman, G. B. (2006). *Designing qualitative research* (4th ed.). Thousand Oaks, CA: SAGE.
- Miles, M. & Huberman, A. (1994). *Qualitative data analysis: An expanded sourcebook*. Thousand Oaks, CA: SAGE.
- MoEYS (Ministry of Education, Youth and Sport, Cambodia) (2004). *Policy and strategies on information and communication technology in education in Cambodia*. <http://www.moeys.gov.kh/en/policies-and-strategies/ict-in-education-cambodia.html>
- MoEYS (Ministry of Education, Youth and Sport, Cambodia) (2014). *Policy on Higher Education Vision 2030*. <http://www.moeys.gov.kh/en/policies-and-strategies/policy-on-higher-education-2030.html>
- Moore, J. L., Dickson-Deane, C. & Galyen, K. (2011). E-learning, online learning, and distance learning environments: Are they the same? *The Internet and Higher Education*, 14(2), 129-135. <http://dx.doi.org/10.1016/j.iheduc.2010.10.001>

- Naron, H.C. (2015). A remark of His Excellency Dr Hang Chuon Naron, Minister of Education, Youth and Sport. *Special high-level meeting on the Education 2030 Framework of Action, Paris*.
http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/ED/ED_new/pdf/CAMBODGE.pdf
- Nguyen, T. H. (2010). Cambodia: Cultural background for ESOL teachers.
<http://hmongstudies.com/NguyenCambodians.pdf>
- Parer, M. S., Sokoeun, S. & Sidaroth, K. (2011). A national teaching and research open university for Cambodia: Teaching, learning and research in Cambodia's 21st century higher education institutions. Challenges to the pedagogy and the impact of information technologies. In S. Barton, J. Hedberg & K. Suzuki (Eds.), *Proceedings Global Learn 2011*, pp. 2140-2147. Association for the Advancement of Computing in Education (AACE). <https://www.learntechlib.org/p/37457>
- Parker, J. (2011). A design-based research approach for creating effective online higher education courses. In *WAIER Research Forum August 2011*. Fremantle, Western Australia. University of Notre Dame.
<http://www.waier.org.au/forums/2011/abstracts.html#parker>
- Patton, M. Q. (2015). *Qualitative research and evaluation methods*. (4th ed.). Newbury Park, CA: SAGE.
- Phong, K. & Sola, J. (2015). *Mobile phones and Internet in Cambodia 2015*. Open Institute, Development Innovations and The Asian Foundation.
<https://asiafoundation.org/resources/pdfs/MobilePhonesinCB2015.pdf>
- Rajesh, M. (2003). A study of the problems associated with ICT adaptability in developing countries in the context of distance education. *The Turkish Online Journal of Distance Education*, 4(2). <http://tojde.anadolu.edu.tr/yonetim/icerik/makaleler/85-published.pdf>
- Reeves, T. C. (2006). Design research from a technology perspective. In J. van den Akker, K. Gravemeijer, S. McKenney & N. Nieveen (Eds.), *Educational design research* (pp. 52-66). London: Routledge.
- Richardson, J. W. (2008). ICT in education reform in Cambodia: Problems, politics, and policies impacting implementation. *Information Technologies and International Development*, 4(4), 67-82. <http://itidjournal.org/itid/article/view/311>
- Richardson, J., Finholt-Daniel, M., Sales, G. & Flora, K. (2012). Shifting pedagogical space: Egyptian educators use of Moodle. *International Journal of Education and Development using Information and Communication Technology*, 8(2), 92-106.
<http://ijedict.dec.uwi.edu/viewarticle.php?id=1537>
- Schweisfurth, M. (2013). Learner-centred education in international perspective. *Journal of International and Comparative Education*, 2(1) 1-8.
<https://jice.um.edu.my/article/download/2553/769>
- Siemens, G., Gasevic, D. & Dawson, S. (2015). *Preparing for the digital university: A review of the history and current state of distance, blended, and online learning*. Athabasca University.
<http://linkresearchlab.org/PreparingDigitalUniversity.pdf>
- StatCounter (2017). Social media stats in Cambodia Aug 2016 - Aug 2017.
<http://gs.statcounter.com/social-media-stats/all/cambodia>
- Tan, D. (2016). Cambodia's digital statistics 2016. Geeks in Cambodia.
<http://geeksincambodia.com/cambodias-digital-statistics-2016>

5. List your favourite Apps on your phone

6. Do you have your own computer?

Laptop Tablet Desktop

If yes

Make _____

Model _____

Year _____

7. What do you use your computer for the most?

8. Does your family have or use a computer at home?

9. Do you use any of the following social media?

Facebook Twitter Skype Blog Wiki

Other? _____

10. What tasks do you use a computer for at university?

Dr Julie Crews is a Lecturer in the School of Business and Law at Edith Cowan University in Perth, Western Australia. She teaches both undergraduate and post-graduate students in business ethics and governance. Her interest in online technology has developed from the challenges of creating better online experiences, especially for international students.

Email: j.crews@ecu.edu.au

Dr Jenni Parker is a Lecturer in the School of Education at Murdoch University in Perth, Western Australia. She teaches undergraduate and post-graduate students in the educational technology stream in both online and classroom environments. Her research focuses on authentic e-learning, developing online presence, communities of learning, pedagogical use of technologies, using free-to-share and open educational resources, design-based research and graduate employability.

Email: jennip98@gmail.com

Please cite as: Crews, J. & Parker, J. (2017). The Cambodian experience: Exploring university students' perspectives for online learning. *Issues in Educational Research*, 27(4), 697-719. <http://www.iier.org.au/iier27/crews.pdf>