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The Impact of a Podcast Project on Learning Outcomes: A Case Study of Two Content-based Courses

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Abstract

The need for content-based courses that can cultivate learners' reflective inquiry and improve their linguistic ability is now a dominant theme in literature. How this cultivation is achieved by podcast activities remains under-explored, particularly in an outcome-oriented and evidence-based performance learning environment. This paper aims to explore and provide insights into how podcasting impacts learning experience and is based on a piloted project which involves two groups of students in two content-based courses (i.e. Foundations of Education and Critical Thinking) over a one-semester course of 18 weeks in the 2017–18 academic year. The study employs ongoing observations, weekly journals, online interactions and two focus-group interviews as the methods for data collection. The findings on the impact of students creating podcast activities show that the activities have enabled students to achieve several remarkable learning outcomes including improved English-speaking motivation, English vocabulary, in-depth thinking, collaborative skills and sociocultural awareness. The students also showcased their willingness to learn beyond the limits of the lessons, extending their search for knowledge outside the classroom.

Keywords: Podcast, content-based course, collaborative learning, Royal University of Phnom Penh, Institute of Foreign Languages

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Introduction

There has been a recent shift away from teacher-centered teaching, such as lectures, in Cambodian schools. This has resulted in an opportunity to implement innovative instruction methods that best fulfill the needs of both individuals and society in the present and the future (MoEYS, 2014). Identifying the need for such innovation, the Ministry of Education, Youth and Sport (MoEYS) has been promoting the use of information and communication technology (ICT) in higher education institution (HEIs) classrooms, making innovative thinking, communication, problem-solving skills, research and information retrieval, and processing skills the focal points in teaching and learning (MoEYS, 2009-2013). However, in line with this ministerial endeavor, the MoEYS has also identified a serious lack of well-trained faculty members who are ready to integrate technologies into their classroom. The Ministry has therefore been investigating any innovative methods that HEIs can use to enable their faculty members to integrate ICT in their classrooms.

Given the importance and ubiquity of technology, finding ways to integrate ICT into practical classrooms has become increasingly urgent. In particular, classroom teaching and learning in university content-based subjects have long waited for the technological emphasis and innovations which can promote knowledge diversity along with meaningful activities and active thinking for learning (Cenoz, 2015). The overarching objective of this study is to help build faculty members' confidence in the use of ICT in teaching and learning in their HEI classrooms. This study identified that, given the amount of resources and other teaching aid choices that HEIs in Cambodia currently have in place, determining the fundamental requirements to achieve the full use of ICT for content-based course classrooms is a crucial step. This study implemented podcasting activities as a means to assist the teaching and learning process in HEI classrooms, placing English language skills, working in a team, solving complex problems and critical thinking skills at the center of the investigation.

The Roles of Podcast-Assisted Dialogue for Content-Based Instruction (CBI) in HEI Classrooms

Content-based courses have been widely integrated into the local universities' curricula in Cambodia. In fact, content-based instruction (CBI) has been used in language teaching to position communication as a key for identifying and eliciting knowledge from various existing sources including documents, experts and justified datasets that can be verified and utilized (Brookfield, 1995). CBI is an effective choice for teaching because it motivates students to communicate in lengthy dialogue, which might promote communication, initiative, creativity and critical-thinking skills among learners. Learning is about giving meaning to the surrounding world, becoming conscious, and acquiring the mental capacity to reflect on one's own experiences and actions (Freire, 1994). As dialogue can be a social platform to recreate knowledge, as described in Freire's dialogic pedagogy, this current project has been inspired by how dialogue can be utilized to benefit learners.

A myriad of research reports a number of benefits from the use of group discussions as a teaching-and-learning technique at undergraduate level. For example, in a meta-analysis of 168 studies, Johnson et al. (2014) discovered that group discussions had profound impacts on students' retention of learning materials and those who had been involved in group discussions had better developed reasoning skills than those who studied individually. The process of learning in group discussions enables students to construct new knowledge (Davidson & Major, 2014), improves communication skills (Jackson et al., 2014) and raises sociocultural awareness (Finelli et al., 2011). In contrast, the conventional ways of teaching, such as the direct teaching approach, position teachers as the major determining factor for the amount of students' learning and, therefore, has led to intellectual dependency (Davidson & Major, 2014) and limited students' creative thinking, innovation and other hidden capacities (Bowman, 2016). In addition to this, Shor (1996) considers learning a sociocultural process of meaning-making, contributing to the development of personal identity which surpasses a mechanical way of memorizing words and identifying grammatical rules. In the 21st century's learning processes, the teaching and learning at universities can revolutionized with the help of technology (Selwyn, 2007).

Podcasting is a relatively new technology in teaching and learning in HEIs. A podcast is an audio program or file that is created by a person who then uploads it onto an online platform, allowing someone else to

download it via a platform such as iTunes and listen to it on a device such as an iPhone or iPod. Because it is both free of charge and widely available, podcasting has gained increasing attention and captured the imagination of practitioners from all areas of education, emerging as a new approach in both mobile learning and e-learning. Powered by Web 2.0 technologies and services, podcasting has enabled users to produce and share content within their online communities. Making podcasts also develops many skills, as creating a podcast involves not only technical productions such as recording voices but also requires a sound knowledge of content, delivery of content and teamwork skills (McCombs & Liu, 2007).

Conceptualizing the Effect of the Podcast Project on Learning Outcomes in Content-based Instruction Courses

In the Student Creating Podcast Project (SCPP), which was assisted by the present technology, the dialogue has to be customized as a recorded file in podcasting. The customization of the dialogue will be introduced to the senior students in two content-based courses: Foundations of Critical Thinking Skills (CT) and Foundations of Education (FE). These courses run for one semester at the Institute of Foreign Languages (IFL) at the Royal University of Phnom Penh (RUPP).

Student-generated podcasts develop learning skills and storytelling skills (McDrury & Alterio, 2002). The authors also identified the art of storytelling as a powerful tool for deep learning and reflection. The current Web 2.0 multimedia technology allows students to create a variety of electronic portfolios and share them with their peers, gaining educational and social benefits. For example, this distinctive feature is expected to enhance not only individual creative skills but also critical thinking through further reflective discussions after a podcast has been created. According to Rossiter et al. (2009), it is possible for students to transfer from surface learning to a deep learning approach. The transfer allows learners to personalize their learning in a self-directed way along with the use of a student-generated-audio learning approach.

Podcasting and fostering an online community are crucial factors in increasing satisfaction with the learning experience. There is evidence that students demonstrate positive satisfaction with the portability and flexibility of podcasting (Chan et al., 2006). In this regard, a question remains: must an increase in learning occur for new methods to be considered effective, or is positive student satisfaction adequate for encouraging the adoption of new technology methods? According to Lee

and Chan (2005, 2007), podcasting is a tool that can help address undergraduates' anxiety. Both Lee and Chan studied the effectiveness of mobile learning in the form of podcasting in undergraduate classrooms. They discovered that the effectiveness of podcasting as a learning tool for adult learners in higher education is yet to be established. The researchers reported that the surveyed adult learners believed that podcasts were the most effective revision tools for them in terms of time, flexibility and workload. E-learning, particularly via podcasting, is felt by listeners to be an authentic learning experience for students learning foreign language; however, studies examining their use is seldom evaluative (Chinnery, 2006).

While podcasts can be used in a number of areas such as business, journalism, entertainment and personal broadcasting, podcasting has also increasingly attracted the attention of the academic community. The next step is to develop pedagogical models in order to find ways to support and enhance students' motivation and learning through podcasting. Podcast pedagogy has been proven to be a successful model to meet the specific needs and enhance cognitive abilities of diverse learners (Kukulska-Hulme & Traxler, 2005). In their study trial held in 2007 within the Faculty of Economics and Business at the University of Sydney, Australia, Kukulska-Hulme and Traxler (2005) investigated the value of using short-format podcasts as one of the assessment tools for undergraduate and postgraduate students. They found that the students appreciated the flexibility of podcasting in supporting their learning process and the teachers reported that this new teaching tool helped diversify their teaching methodologies and would support a diverse student population.

Study Area and Methodology

The Royal University of Phnom Penh (RUPP) was the research site for the study. Since its establishment in 1960, RUPP has enrolled more than 12,000 students every year in their certificate courses and diploma, undergraduate and postgraduate programs in the Faculties of Science, Social Science and Humanities, Engineering and Development Studies, and the Institute of Foreign Languages (IFL).

IFL, an emerging research institute under the umbrella of RUPP, has been encouraging its faculty members to conduct more research in order to promote their teaching performance and to help students demonstrate improvement of learning in their contexts. Such improvement is central to establishing a culture of reflective learning and improving language and

communication skills. The researchers of this project, who are experienced at teaching CBI courses, saw podcasting as an innovative teaching approach for two courses taught to senior students at IFL: CT and FE. In the first semester of 2017, the researchers allocated about 40 percent of the instructional time for lectures and assessment activities for the courses where group-based and task-based learning procedures were employed for students' podcasting.

The content-based course syllabi, therefore, were customized to leverage learning interest and outcomes. With this, the study aimed to take part in addressing the aforementioned expectations in the two content-based courses with the support of SCPP. In these courses, students were assigned to engage in as many recorded discussions as possible and were encouraged to attend the online community discussions to gain additional learning opportunities. More precisely, in the content-based learning approach, the course teachers doubled as the project researchers required the students to practice personal readings and complete chapter worksheets to get ready to collaborate in the learning process.

The study utilized a qualitative research paradigm as it was exploring experiences and perceptions that are practical in nature (Babbie, 1992). The researchers adopted both case study and phenomenological approaches to deal with phenomena that were difficult or impossible to quantify mathematically, which in this case were the students' beliefs, feelings, experience and perceptions of their motivation and barriers with SCPP. Through the use of the case study approach, detailed information about the students' weekly progress was gathered and explored to analyze the dynamics of SCPP in the CT and FE courses, while the phenomenological approach allowed the researchers to examine and make sense of the construct of the phenomena (Creswell, 2003). For instance, the researchers investigated why some students found SCPP an opportunity to sharpen their skills while the others did not. By using these approaches, the researchers were able to form an in-depth understanding of the students' enthusiasm and behaviors and the factors that produced such behaviors during SCPP. The approaches allowed the researchers to see *why* and *how* the students achieved their learning tasks, which helped the researchers to predict the students' eventual outcomes.

At the beginning of the semester, the students agreed to participate in group podcasting after they studied the informed consent letter, which had previously been approved by RUPP's research center. The informed consent letter included the background of the research, outlined its significance, purpose, methodology and the data collection procedures and

provided the assurance of ethical conduct in the utilization of the participants' data.

For the first week, the researchers ran a workshop that showed the students how to the prepare for SCPP. This included how to engage in the educational dialogue using the Freire's problem-posing approach; how to use the podcast software Voice Record 7 to record, store and manage their podcast productions; and Schoology, which was the online platform where the students could share and discuss the produced podcasts. SCPP was then implemented in both courses from the second to the 18th week of the first semester in 2017. Using the ELI assessment framework in Table 1 described by Coghlan et al. (2007) as the guideline, the researchers were able to measure what SCPP had accomplished by identifying the strengths and the limitations in four main areas: content, delivery, technical production and teamwork.

Table 1. Criteria for determining the effect of the SCPP

Category	**Criteria**
Content	Accuracy, logical sequence, relevance to previously learned materials
Delivery	Confident, enunciated, expressive, cohesive
Technical production	Transitions, quality of audio, length, clarity
Teamwork	Enthusiasm, collaborative, respect

Adapted from ELI discovery assessment criteria (Coghlan et al., 2007)

The participants were two groups of students from two content-based courses: Foundations of Critical Thinking Skills 401 (CT) and Foundations of Education 401 (FE). A total of 58 students participated in SCPP throughout the semester, 27 of whom were from CT (14 female and 13 male) and 30 from FE (17 female and 13 male). The two undergraduate courses are designed for senior students doing either a Bachelor of Education in Teaching English as a Foreign Language (TEFL) or a Bachelor of Art in Professional Communication at IFL. To encourage active contribution from each group discussion member during SCPP, the researchers divided them into small-sized groups of three to four. For each weekly podcast episode of about 30 minutes, having a group of this size provided each student with an equal chance to engage deeply in the discussions of the assigned topics, which are listed in Table 2.

When the courses finished at the end of the semester, the researchers interviewed the students about their perceptions of SCPP via two focus-group interviews, each of which consisted of five participants. There were two females and three male participants both the CT group and the FE group. Each participant was assigned an identification code to protect their anonymity; for instance, P1 is a participant from FE, whereas P6 is another participant from CT (see appendix). All of the interviewees were selected via the quota sampling technique, a non-probability sampling method used to obtain the same proportions of all the individuals in the entire population. To achieve the same proportions that best represented the two courses, the researchers identified four main characteristics: gender, knowledge of SCPP procedure and output, frequency of their participation in SCPP, and willingness to provide data. Data was collected from the two focus group interviews, audio analysis, the students' discussions on *Schoology* and the field note journals.

Table 2. Topics assigned to each group for their SCPP activities

Foundations of Education	**Foundations of Critical Thinking Skills**
• Education: meanings and kinds • Enculturation and education • Debate on nature and nurture effects • Community participation in education • Characteristics of a good school philosophy • Education partnership and accreditation • The needs of early childhood education in Cambodia • The applications of zone of proximal development in actual classrooms • Creating environments conducive to learning • 21st century teachers	• Development: meaning and applications • Critical thinking: values and characteristics • Reflection: liberating education: why knowing isn't enough • Avoiding logical fallacies • Asian development outlook 2015 • Blaming China won't improve the US's economic woes • Sweatshop economy: debates • The Coca-Cola Company declares environmental goals • Real wages in the garment sector fell over 10 years • Why can companies no longer afford to ignore their social responsibility?

This study was mainly based on the empirical investigation of students' experience with SCPP and the review of literature in the area of

technology-assisted learning and integrative learning. The descriptive data were collected through the observations and the students' entry in each episodic SCPP event. The researchers observed and recorded the classroom dynamics, which included grouping structure, involvements in the discussion, teamwork and the various issues that occurred in each podcast episode. The researchers used the online discussions posted on *Schoology* as the narratives and as evidence of the students' learning outcomes and willingness to learn. Finally, the researchers transcribed the two focus group interviews using Express Scribe v4.0 and then analyzed the data using a content analysis method. The content analysis was completed in four main steps: the researchers read the transcribed interview materials and identified the emerging themes, each theme was assigned a code, the main themes were categorized and quantified, and the main themes were reported accordingly.

Results and Findings

The Impact of SCPP on Students' Learning Outcomes

One participant described three important positive effects of SCPP on their learning outcomes. They reported that the active learning that was embedded in the SCPP problem-based discussions encouraged each group member to put a lot of effort into their reading preparation and to demonstrate their willingness to take up the learning responsibilities in order to productively engage with the given discussions. Moreover, the group members became more attentive to the information presented by taking notes and this, to some extent, improved their memory and cognitive skills. As explained by P1:

> *The podcast-creating activities made me work harder myself and with other students. It helps me improve my note-taking skills and I could remember lessons very well. In our SCPP I like to provide information outside the book and allow my friends to give feedback. That way I can encourage my group members to think more.* (Pers. Comm. P1)

Another participant from the CT course also reported a similar positive effect on their learning. They also said that engaging in a supportive teamwork environment is another important learning outcome that the students have achieved. The group developed a sociocultural understanding in academic situations by reinforcing mutual respect and acceptance of each other's opinions in order to maintain the involvement and engagement of the entire group. A clear example was when the members of the team listened to each other's opinions and appreciated

different ideas. It is also worth noting that complex tasks, such as complex and difficult discussing topics, were alleviated by maximizing group learning cohesion. P9 explained:

> *I learn that [SCPP] helped me to respect other people's opinions, even though I sometimes do not like those ideas. Some topics are hard but we can deal with them because all of us read and can clarify points in our discussion. My friends are very supportive, and we help each other to learn new knowledge. Sometimes my friends corrected my English during SCPP, but I don't mind that. The teacher taught us to open our mind. I used to be afraid of comments, but when everyone just does the same, I became okay with comments.* (Pers. Comm. P9)

Moreover, the students also reported their language skills improved because of a series of discussions and interactions that occurred while creating the required podcasts. According to P5, even though language skills are not generally the main focus of the courses, SCPP was seen as an opportunity for students to sharpen their English speaking skills. By engaging in creating podcasts, the participants believed that they improved their assertiveness, pronunciation skills and spoken grammar in speaking English. The discourse of the SCPP dialogues conditioned students to take an active role in communicating ideas, which provided them with an opportunity to use a number of the spoken grammatical aspects and paralinguistic skills that were most appropriate for the given contexts. In addition to this, they reported an improvement in vocabulary learning during their podcast sessions. One participant said:

> *A lot of us had never done a podcast. I, too, felt nervous at first, but I realized that I had improved my confidence in speaking English. SCPP gave me a chance to present my ideas in correct English. I became more aware of how I speak English . . . like improving my pronunciation and organizing ideas. I also learned words and grammar from my team members while we were having discussions. Some of us used a lot of good words. I noted them down so that I can use them in our conversation in the future.* (Pers. Comm. P5)

Critical thinking is another important aspect of the learning outcomes reported by P7. The observed students were able to discern and synthesize their peers' opinions through critical analysis. SCPP provided the involved students with an opportunity to analyze information for deep learning. They also utilized the podcast activities to discuss the in-class problems collaboratively by connecting real-life issues with the studied ethical principles. The students reported using thinking techniques they had

learned such as the Socratic questioning method to enhance the possibility of further learning. P7 explained further:

> *I think that SCPP is a golden opportunity to improve critical thinking. Many topics want me to think a lot. It helps us to analyze information before we accept it. I think I learned the lessons deeply about a problem when the teacher gave more time for SCPP. I remember when we discussed "liberating education," everyone shared many good points from the article and from our real-life experience in school. . . . When I had nothing to share, I used the Socratic method. I asked questions, moral questions, like a lot of questions. I got a lot of information by doing that.* (Pers. Comm. P7)

Despite the many beneficial effects of SCPP on students' learning, the students also raised a few concerns, as presented below.

> *I sometimes feel bad when I don't have good points to share with the group.* (Pers. Comm. P2)
>
> *My English is not good, so it is hard to share ideas.* (Pers. Comm. P3)
>
> *We usually agreed to each other's points . . . I sometimes feel that we did not reach good details.* (Pers. Comm. P6)

As the students were placed in situations that required them to think and communicate their thoughts to the others in the group, they might have developed feelings of inferiority and anxiety if they could not generate ideas as a response to the points of the discussion. Such feelings might have had the effect of either encouraging them to increase their efforts in preparing for the podcast activities or damaging their self-esteem. The negative feelings might have occurred because some students dominated the dialogues or if the topics of discussion were too complicated for them. Language skill was also another barrier that hindered students' participation in the SCPP dialogues; for some students, learning attitudes, conditioned by their culture and social values (i.e. saving face) might have discouraged their deep learning and hindered rigorous inquiry-based learning to a certain extent.

SCPP and Students' Willingness to Learn Beyond the Limits of the Lessons

The current research produced a considerable amount of evidence to support that students would have varying degrees of willingness to prepare and engage in a learning situation and that this determined their levels of achievement. All interviewed participants reported that they were willing to engage beyond the limits of the lessons by researching and exploring

more deeply into the topics to gain better understanding of them. This willingness was exhibited in various forms, such as the feelings of concerns and the enthusiasm in researching on the assigned topics.

Students' perception of and practices in SCPP, therefore, confirmed that a willingness to learn and accepting the responsibilities of their learning are the attitudes that students needed to develop throughout the course. One way to demonstrate such a willingness to learn beyond the limits of the lessons is by applying active learning, such as asking probing questions, doing research and analyzing the information collected from the discussions. This study strategy requires an effort that needs to be driven by purpose, as described by two participants:

> *I can't provide just any ideas, so I do research a lot to get ready for the group podcast in class. I usually read the assigned materials and also Google for more information. Personally, I don't always feel that I can accept all points. I always need to check those points by asking for details or searching on the Internet to see if they are good enough.* (Pers. Comm. P5)

> *I spent a lot of time analyzing my group members' ideas to see if they are assumptions or facts.* (Pers. Comm. P7)

From P7's statement, it can be seen that students' willingness to learn beyond the limits of the lessons could be affected by negative emotions such as anxiety and fear of criticism, as reflected in their desire to find out what is right by challenging other group members' points of view and/or doing further research. The desire favors transformation (change) and its process. In the CT course, change is a central theme that is intensely discussed in the course readings regarding the academic, economic, social and ethical development. As P7 explained further:

> *Others may hate me for being too critical, but I do that as a habit to challenge bad ideas for good change. Plus, it is shameful to stay on the surface while on the podcast.* (Pers. Comm. P7)

Other students reported that their group environment was supportive and few conflicts occurred, therefore allowing their desire to overtake the fear. This is shown in the following dialogue:

> **P1**: I believe SCPP increased my desire to explain more by giving more details.
>
> **Researcher**: How do you describe that desire?
>
> **P1**: Like . . . I feel more concerned and always want to say something.
>
> **Researcher**: With the desire, what specific actions did you take?

> **P1**: Well, mostly I keep adding more points . . . also, I link them to real life. I also share my personal experience.

The nature of the various SCPP's dialogue activities revolves around the participants' ability to explain their ideas during the discussions. To effectively communicate their ideas, each member in the discussion group had to expand upon their opinions, which they had developed through logical and prepared organization. P6, for example, needed to organize her points, which could have been collected from the textbook, the lectures, peer discussions and self-driven research, in such a way that she would feel confident that her group members would understand what was at stake and beyond.

> *I need to organize my ideas and explanation very clearly so that I can help my friends who are struggling to fully get the points.* (Pers. Comm. P6)

Students also noted that their active involvement in discussions led to useful discoveries. The emphasis on the desire to be autonomous was evident, reinforcing the value of discovery through personal exploration among their peers for valuable knowledge that is relevant to real life.

The response below shows that the students appreciated learning autonomy, as it empowered them to authenticate knowledge by connecting the issues discussed in class to real life. In addition to this, the project field notes also support the importance of having a learning environment that enabled such in-depth discussions among peers. For example, the time for recording podcasts was extended in cases where any groups were still enthusiastic about the topics and wished to discuss more. In this vein, P9 said:

> *SCPP is my favorite learning time. I feel excited when my podcast members like to relate [the podcast] to the issues to our society, that way I can make learning useful. I think . . . I don't learn well if teachers talk the whole session. I do agree that SCPP helps me to control my own learning because I can explore my interests.* (Pers. Comm. P9)

Discussion

Bowman (2018) emphasizes the importance of the inquiry-based learning approach for content-based subjects in nurturing active learning agents and also notes that learning develops a broad spectrum of skills and proficiencies including thinking, dialogue, decision-making, research and reflective inquiry. The challenges in achieving such outcomes may call for classroom pedagogies that motivate a culture of dialogics (Freire, 1985; Freire, 1994; Alexander, 2008). From a social constructivist perspective, the motivation

derives from both extrinsic and intrinsic sources, positioning learning as essentially a social phenomenon that is conditioned to rewards provided by the knowledge community (Vygotsky, 1978). In addition to this, as knowledge is actively constructed by the learner, learning is related to a learner's internal drive to understand and promote the learning process. Since learning does not take place within a vacuum in which students are passive recipients of knowledge without first examining it against their schema, learning in university content-based courses may demand collaborative and integrative approaches jointly, through which motivation in the learning situations could potentially be enhanced by technologies.

Collaborative Learning Assisted by Computer-Mediated Learning

The current research confirms previous findings. Marco (2007) conducted an experiment concerning group podcasting in the classroom by studying students producing podcast lessons at the University of Bergamo. The results showed that podcasting in the classroom had positive effects on the students' grades. The findings of this research, therefore, support that content-based learning assisted by SCPP should occur in a collaborative environment, requiring motivation in all of its stages, from an interest in obtaining knowledge about SCPP procedure, preparation and engagement to a reflective practice of what has been learned. While the students reported using SCPP as a platform to exercise and test their ideas, the presence of students' research *for learning* and *as learning* are the prerequisites for developing deep learning, which is generally understood as the acquisition of knowledge beyond the visible facts. This is because information needs to be supplied at depth and breadth in targeted learning. Therefore, the profound outcomes of content-based learning occur due to collaborative learning arrangements that activate learner autonomy, self-confidence, community-learning and a high level of reasoning (Fransen, et al.,1995).

Collaboration in a constructivist classroom promotes personal meaning-making among individual students and creates a platform wherein the social construction of knowledge, skills and meanings can occur (Jonassen, et al., 1995). In a collaborative learning environment, integrative instructional methods such as SCPP could essentially accomplish a number of learning outcomes. These include assisting knowledge generation, promoting initiatives, creativity and critical thinking, allowing students to create a shared goal for learning and form the foundation of a learning community, addressing all learning styles and

leveraging issues of culture. The 18-week piloted study used SCPP in a way that required learners to develop teamwork skills by regarding individual learning as essentially related to the success of group learning and by allowing students to achieve the possible skills (Miranda et. al, 2015). Moreover, smaller groups are potentially more conducive to richer and more equitable access to knowledge collaboration than larger groups. In the current study, for instance, SCPP enhanced the peer interaction, class discussions and constructive feedback that were facilitated by the teacher. The learning processes were channeled through students' narratives of specific concepts and/or relevant real-world problems, which were then furthered by guided questions, clarification and additional input by other team members.

Promoting Students' Willingness to Learn Beyond the Lesson

The current study confirms the important role of willingness to learn beyond the lesson. Improving students' willingness to learn is an essential component of promoting lifelong learning processes, since knowledge is endless as far as learning goes. In particular, SCPP confirms that students' willingness to verbally communicate enables them to generate input and output (McCroskey, 1997), affirming beliefs in their ability in speaking (MacIntyre, 2007), developing sensitivity of information (Hidi & Harackiewicz, 2000), creating a positive learning atmosphere (Dörnyei, 1994), providing reasonable challenges (MacIntyre, 2007) and alleviating gender barriers in communication (Baker & MacIntyre, 2000). One of the important roles of university education could be correlated with students' ownership of their learning (learner autonomy) and, when this education is advanced by instructional settings that are thought-provoking in nature, it heightens students' integrity, ethical principles, character, wisdom, knowledge, temperament, words and actions (Hock, 2000). These attributes have a potential to promote lifelong learning, which most school curricula aim to achieve as an outcome.

However, since knowledge, creative thinking and innovation are skills in much demand in the employment sector, it is important to investigate how available technologies such as podcasts will make a difference in education on a large scale. How could instructional technology promote deep learning, particularly in EFL contexts such as the Cambodia's? Such questions require attention from various stakeholders, such as policy-makers, teachers and educationalists, perhaps asking them to rethink their conventional practices including the existing instructional approaches, previous understandings of learning and learners' psychology,

assessments, and the types of resources used to leverage sustainable knowledge cultivation in classroom settings. In this vein, Hew (2007) identified six factors that affect successful technology integration: lack of resources, lack of specific knowledge and skills, institutional structures, teacher attitudes and beliefs towards technology, types of assessment, and subject culture.

Planning and Policy Implication for the Integration of Podcasting into HEIs in Cambodia

Since 2003, MoEYS has been promoting the integration of ICT in education through a number of strategies, including the donations of computers to secondary schools and the ICT trainings for teachers across the country. However, the existing ICT methodology and resources are aimed at secondary school teachers and teacher trainers. For instance, two cohorts of teacher trainers in the local public training centers have been trained how to design websites and produce web-based audiovisual educational resources in the Khmer language for administration, teaching and learning purposes (MoEYS, 2009-2013). In higher education, ICT has been much more accessible and easily implemented, as most private HEIs are located in urban areas, where it has been easy to set up ICT facilities and an Internet connection. MoEYS recognizes the importance and relevance of ICT in students' development and thus recommends that HEIs use their scarce ICT resources to fulfil their capability to teach learners and connect them to any virtual learning platforms around the globe as much as possible.

MoEYS's policy guideline on 'new generation schools' is aimed at modernizing local classrooms, starting from the basic educational level. This nationwide policy sees ICT as a key element in making the new generation schools possible (MoEYS, 2016). Thus, the Ministry encourages all schools to use ICT as a means to integrate 21st-century innovations into the teaching and learning process. The findings of this SCPP support that a technology-assisted approach, where HEIs students create podcasts in order to improve their learning and promote in-depth understanding of content-based subjects, should be used as a creative teaching methodology in the other HEIs. The results of the study, therefore, suggest that HEI teachers be trained in how to execute podcast activities in classrooms, that university course syllabi be customized and that support structures such as academic policies and administrative support be made possible to accommodate innovations of this nature in classrooms.

Conclusion

The findings and discussion of this study support the integration of SCPPs for learning and teaching content-based subjects in HEIs. This study found that podcasting provides learning diversity and helps shape classroom learning, which may help students to demonstrate their unique capacities in creative thinking, improve language skills and make higher education more relevant to real-world needs. SCPP has proved to be an effective instructional method that has leveraged learning crises rooted in shyness and passiveness in learning, and has promoted students' willingness to interact, research and think beyond what is taught in EFL classrooms. SCPP has helped students develop several important skills including speaking skills, vocabulary, research, teamwork and sociocultural awareness. The findings also suggest that teachers should create a supportive environment in which every student's problems with SCPP could be discussed. To manage a project such as podcasting, teachers need to pay close attention to designing learning materials that are contemporary in nature. Topics should be challenging and reflective of the real-world issues. Additional time should be provided when necessary and group podcast structures could be small in size. To encourage meaningful contributions from individual SCPP group members, teachers must balance giving students control over their projects and free practice in the discussion sessions. Doing these things enables students to extend their learning beyond what is taught in class.

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Brief Biographies

Samarnh Pang has taught several undergraduate courses in the Department of English of the Institute of Foreign Languages at RUPP (Cambodia), including Literature Studies, Foundations of Education, and Foundations of Critical Thinking. He obtained a Master of Education degree from Charles Darwin University (Australia) in 2014, a Master of Arts in TESOL from the Institute of Foreign Languages in 2012, and a Bachelor of Arts in English Language from the Asia-Pacific International University (Thailand) in 2008. His research interests revolve around technology-enhanced language teaching and learning, adult literacy and lifelong education.

Chenda Khan has been teaching at the Department of English and the Department of Media and Communication at RUPP (Cambodia) since 2005. He obtained a Master of Arts in Public Policy from the Lee Kuan Yew School of Public Policy at the National University of Singapore in 2011. His research interests revolve around public governance and leadership, education and social development. He sees education as key for addressing many of the current poverty and crime-related issues in Cambodia.

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Appendix

List of participants who participated in the focus group interviews

Code	Position	Date
P1	Year 4 student (Bachelor of Education in Teaching English as a Foreign English) from Foundations of Education Course	16/01/2018
P2	Year 4 student (Bachelor of Education in Teaching English as a Foreign English) from Foundations of Education Course	16/01/2018
P3	Year 4 student (Bachelor of Education in Teaching English as a Foreign English) from Foundations of Education Course	16/01/2018
P4	Year 4 student (Bachelor of Education in Teaching English as a Foreign English) from Foundations of Education Course	16/01/2018
P5	Year 4 student (Bachelor of Education in Teaching English as a Foreign English) from Foundations of Education Course	16/01/2018
P6	Year 4 student (Bachelor Arts in Professional Communication) from Foundations of Critical Thinking Skills Course	18/01/2018
P7	Year 4 student (Bachelor Arts in Professional Communication) from Foundations of Critical Thinking Skills Course	18/01/2018
P8	Year 4 student (Bachelor Arts in Professional Communication) from Foundations of Critical Thinking Skills Course	18/01/2018
P9	Year 4 student (Bachelor Arts in Professional Communication) from Foundations of Critical Thinking Skills Course	18/01/2018
P10	Year 4 student (Bachelor Arts in Professional Communication) from Foundations of Critical Thinking Skills Course	18/01/2018