Developing a Dynamic Model of Interactive e-Learning in Accounting and Finance Programs in Higher Education Institutions in Cambodia: A Phenomenological Study

Maria Isabelita C. Manzon- Cabrera

CamEd Business School

The advent of technology and putting emphasis on education in ICT has been the main focus of most universities in Cambodia. Higher education institutions are all the more challenged to be at par with neighboring countries in terms of 21st century skills and competencies, the dynamic intricacies of learning bring to the future at hand through e-learning. This study explored the lived experiences of teachers engaged in e-learning in Cambodia, especially during the pandemic. It also focused on the experience on the use of digital tools that generate great possibilities for developing new techniques of information search, skills, and technological abilities within the school's academic framework, for teachers, who were able to ask themselves how much knowledge they have of these new tools. A phenomenological research design was adapted that culled the following emergent themes through constant comparison by means of phenomenological reduction: Innovative Teaching for Effective Learning, Building Motivation through Difficulties, E-Learning is a Necessity in New Normal Education, Having Aid from School and Technology, Prioritizes Students' Effective Learning and Essentials that led to a Dynamic Model Framework for Interactive e-Learning in Cambodia.

Keywords: *Technology, interactive e-learning, higher education, technological skills in higher education, pandemic*

INTRODUCTION

The problem and its background

The Kingdom of Cambodia, a developing country of more than 16 million people, prioritizes the building of its human resources after the devastation from the Khmer Rouge Regime in the 1970s (Sol, 2021). That regime killed about a fifth of the country's population at that time. The genocide targeted the intellectuals such as doctors, lawyers, teachers, journalists, artists and students. After the end of the regime, the government recognized the need to rebuild the nation and that the development of the human resources is key to this development. However today, there are about 125 higher education institutions in Cambodia where more than 200,000 students are enrolled (Heng, 2021). In March 2020, to curb the spread of the Covid 19 virus, the Ministry of Education, Youth and Sport (MOEYS) announced that all educational institutions would suspend physical classes temporarily (Seangmeng, 2020). Most of the higher education institutions had to transition to e-learning modalities immediately. The challenges included the lack of ICT infrastructure, internet connectivity, conversion of course materials

and students' ability and capability for e-learning. Almost 2 years on, the higher education institutions have not fully gone back to the "old '' normal physical classes. The learning loss in the students is high and it could be attributed to the lower effectiveness of education through e-learning. The interactivity of the teaching and learning process is highlighted as one of the factors that need to be addressed. It is a fact that each and every learner and the learner's world is different. This has been highlighted further during this pandemic. The Covid 19 pandemic has exposed the vulnerabilities of the learners as well as the weaknesses of the education system. The United Nations Policy Brief on Education during Covid 19 and Beyond calls for flexibility, equitability and inclusivity. The researcher is a faculty of accounting and finance in a private higher education institution in Cambodia. Thus, this research will focus on developing a dynamic model of an interactive e-learning system for higher education in Cambodia.

Using the existing policies, processes and resources, the dynamic model of interactive e-learning produced from this research will enable learning providers of Accounting and Finance Program in Cambodia to develop curriculum, course programs and lesson

plans that are engaging and interactive. The various stakeholders will be able to apply the processes within their contexts as well as to ensure a cohesive, inclusive, flexible and equitable e-learning system. This wholistic approach will lead to higher standards in learning and progressive country building. The tetrahedron in Figure no. 1 shows the dimensions that can be addressed by a dynamic interactive e-learning system and may support the findings of the emergent framework at the end of this study.

Figure 1

A Flat Tetrahedron Illustrating the Facets to be Considered in Developing a Curriculum and to which the Dynamic Model in Interactive e-Learning can be Applied
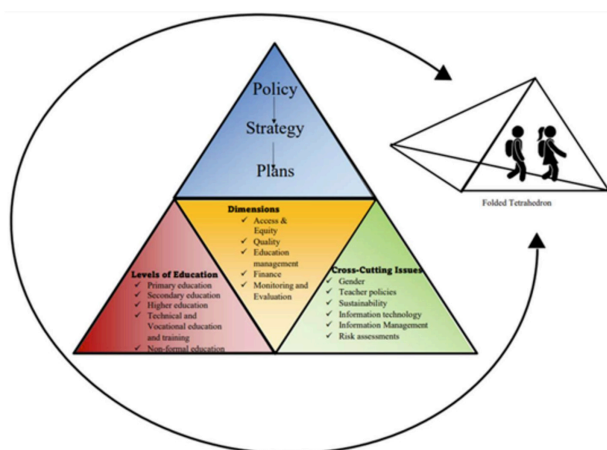
The base of the tetrahedron represents the dimensions that the learning system must accomplish. These are accessibility & equity, high quality, proper management, adequate financing, constant monitoring and continuous evaluation. The three sides of the tetrahedron contain the different factors that must be in place to enable the education system to achieve the dimensions mentioned in the base. The first side represents the importance of formulating the principles that established the policy. This policy forms the basis for setting up the strategy. The approach in the strategy can be the foundation of the plans for execution. These must be based on the priorities of international and national governing bodies as well as the needs of the stakeholders such as employers, business, government, society. The policy, strategy and plans must encompass all the levels and types of education system in the country – primary, secondary, higher, technical & vocational, and non-formal education levels. The third side of the tetrahedron represents the emerging issues that

have become important and integral consideration in any education system: gender, teacher policies, sustainability, environment, Information Technology and information management. At the center is the beneficiary of the system – the learner.

This diagram is not all-inclusive. The four sides highlighted in the tetrahedron as illustrated in Figure 1 may not be enough to cover all the factors required to be considered in policy analysis, development and programming. However, the research may result in additional information or changes in the contents of the tetrahedron. During this pandemic time all businesses and organizations have gone back to the drawing table to re-write their strategies and included risk management as a major factor to consider. The education system and institutions must be equally prepared. The policy and programming must be embedded with a mechanism to identify, assess, and address any risks that it will face. As such, under the third side of the tetrahedron above, risk management is added to highlight the need for the same. It may be argued that risk management may fall under the dimension of monitoring and evaluation. Monitoring and evaluation is applicable to the policy and plans that already existed. Risk management involves the assessment of both the current and future situations. Only then will the policy analysis and programming be truly dynamic.

LITERATURE REVIEW

For most of the higher education institutions the need to rapidly moved into e-learning modalities, following the suspension of the physical classes by the Ministry of Education, Youth and Sports in March 2020, "has been a huge culture shift for leaders, faculty members and students, with limited prior exposure to digital learning, teaching platforms and pedagogies." (Leng et al, 2020). In Cambodia, traditional methods of face-to-face instruction in the classroom remain dominant across the sector, despite calls to integrate ICT into higher education since the 1990s. Higher education infrastructure and learning resources in Cambodia existed mainly for on-campus teaching and learning (Sol, 2021). Upon the arrival of COVID-19, the pandemic has caused disruption in Cambodia in all aspects of life, and education is no exception (Heng, 2021). The abrupt transition to online learning prompted by the COVID-19 pandemic allowed no time for all stakeholders to prepare. Faculty members and students were required to take on online teaching and learning without enough guidance, training, and resources (United Nations, 2020).

Despite this, COVID-19 presents both opportunities and challenges to the education sector (Marinoni et al., 2020). Contemplating the fast-growing context of a more digitalized world, COVID-19 has provided an excellent opportunity for Cambodian educational institutions to integrate ICT into their education programs. The infrastructure and experience accumulated during the COVID-19 crisis will act as a strong impetus for the greater utilization of ICT in Cambodian education in the future (Heng, 2021). According to Sol (2021), digital infrastructure and learning resources "include but are not limited to a wide range of digital devices, e-learning platforms, technology-enhanced classrooms, high-speed internet connectivity, digital libraries, comprehensive learning management systems, data privacy and security, quality digital contents and resources, and constant technical support" (Sol, 2021).

Adopting online learning and teaching is no longer an option but a matter of survival. Key challenges are related to the closure of educational institutions, leaving millions of learners unable to continue their education in normal, face-to-face classroom settings (Marinoni et al., 2020; UNESCO, n.d.). As a response to these unprecedented challenges, schools and universities in Cambodia and other countries around the globe have resorted to online learning, creating a phenomenon called "the rise of online learning" (Heng & Sol, 2021). Because ICTs provide both students and teachers with more opportunities in adapting learning and teaching to individual needs, society is forcing schools to aptly respond to this technical innovation (K. Ratheeswari, 2020).

However, the need to shift to e-learning during this pandemic could also be an opportunity to leapfrog into a personalized and digitized education which will prepare the learner for Industrial Revolution 4.0 in the long term. COVID-19 could be considered "a silver lining in the crisis" for Cambodia's education sector. Particularly, the COVID-19 pandemic has offered a unique opportunity for Cambodia "to strengthen the integration of ICT in education and foster the digital transformation of its education system" (Heng, 2021). The increasing investment in essential digital tools and Learning Management Systems (LMS), the transformed learning resources developed and made available by HEIs and faculty members, and the experience gained through online teaching and learning during the school closure will improve blended learning in Cambodian higher education post-COVID-19 (Sol, 2021).

To be able to aid the Cambodian higher education institutions, Leng et al, (2020) suggests that "higher education leaders have a genuine commitment to adopting online learning as a key complement to in-person classes in the post COVID-19 era, although not a total replacement for them" (Leng et al, 2020). It is suggested that digital infrastructure and literacy must be developed. It is important that they find more innovative ways to encourage faculty members to integrate ICT into the classrooms more widely.

Due to the socially constructed nature of technology, technological choices made during the Covid-19 pandemic will impact micro-level teaching and learning experiences, to create wider and unpredicted macro-level societal impacts (Selwyn 2010). Instead of short-term solutions, what is needed is critical analysis of these matters (Williamson, 2020) The integration of ICT or blended learning in the mainstream classrooms "requires effective leadership, strong commitment and institution-wide collaboration" (Heng, 2021). Furthermore, approaches to online learning and teaching need to be focused more on students rather than relying on teacher-dominated lectures so that students are engaged and take responsibility for their learning, and also the establishment of nationwide development and training programmes for teaching and non-teaching staff to increase their confidence and competency around online learning and teaching methodologies" (Leng et al, 2020).

Research with a number of teaching and learning centers reveal eight priorities to enhance the effectiveness of teaching and learning in e-learning modality (Naffi et. al, 2020). The priorities are to create accessible materials; choose adequate digital technologies; record lectures and caption videos and audio content; adopt inclusive culturally responsive teaching; adopt a flexible approach to student participation; ensure financial support and equipment; understand student needs; and address systemic racism.

Unplanned closures of educational institutions undoubtedly cause severe issues for learners, educators, parents, and society at large. There have been notable effects on interest in learning and students' academic performance (Seangmeng, 2020). It is known that students learn better if they actively participate during class rather than just listening to hours of lecture. Through learning resources including video conferencing applications such as Zoom, email and social media, teachers and students are able to continue their teaching

and learning activities. Furthermore, through online resources, educators and learners can access information, create supportive environments for education and have the opportunity for professional development (Seangmeng, 2020).

The National University of Singapore has identified three approaches to ensure engagement of students in online learning: "strengthen student-teach interaction, plan regular checkpoints with live student responses, and utilize student interaction. Keeping students engaged virtually is more challenging because it is harder to pick up on the clues you get during a traditional class: knowing when students are lost, distracted or confused and when to speed up or slow down. By effectively using teaching techniques and available online platforms, lecturers can deliver engaging lessons while achieving meaningful interactions among the teaching team and students. We encourage educators to explore and expand on the various methods to make online learning more engaging for students." (Fung et al, 2020).

Interactivity must be considered in designing an effective learning management system (LMS). Sabry and Barker (2009) states that " For a learning system to be interactive for different types of learner, it will be necessary to take account of the users (the learners) who are expected to use such systems for learning, and it is not merely enough to give students access to different tools and/or learning environments (Bates and Leary, 2001, as cited in Sabry and Barker, 2009). It requires a move from a teacher-student dependence design to a teacher-student independence design that gives students flexibility and control over their learning in line with their changing needs. This essentially requires investigation of factors such as learners' different learning preferences, needs, interests, prior knowledge, experiences, background, culture, talents, and abilities.

The Learner component is concerned with knowledge about the learner such as individual differences (for example, gender, prior knowledge, age, culture and special needs); learning styles (for example, Sequential/Global, Active/Reflective and Visual/Verbal); performance and attainment level; attitudes and beliefs. The Subject Content component, includes information that constitutes relevant subject knowledge required to be learned including internal information or actual contents provided (subject material) and other external information that are relevant or supplementary to subject material, for example, searching the Internet for information such

as papers relevant to subject material), items to be taught, course aims and objectives, and skills to be developed (Figure 1). The Technology component is concerned with how a course of study may be delivered in terms of different tools to be used, including usability, interactivity, navigation, and human-computer interaction (HCI) aspects of learning systems. The Pedagogy component is concerned with how a course of study will be delivered in instructional terms. Meanwhile, the Interaction component will help in coordinating and balancing the other four elements.

Sabry and Barker (2004), highlighted the need for a dynamicity dimension of the Interactive Learning System model. This is on how information should be "updated instantly as soon as changes occur and is available to those who need it at the time and in the form and relevance in which it is needed" (Barker, 2007; Barker and Finnie, 2004, as cited in Sabry and Barker, 2009). The Dynamic Interactive Learning System (DILS) "will not only have interactive components, but dynamic components rather than static components that are constantly updated and modified based on latest research and updated knowledge gained in the field concerned. It is based on open systems that are flexible, adaptable, adaptive, interactive, relevant, anytime and anywhere. The DILS advocates the inclusion of a dynamic feedback and adjustment mechanism which is largely ignored by most learning systems. The DILS also stresses and highlights the importance of the balancing concept through the interaction and coordination between different components of the model based on up-to-date and dynamic information including course material, relevant technology, pedagogy and learners' actual profile in order to both accommodate students' differences and develop skills required in a relevant and balanced manner" (Sabry and Barker, 2009).

As part of this study, the researcher focused on "adopt a flexible approach to student participation - Prepare for flexible timing for student assessment; discontinue traditional three- hour lectures; opt for asynchronous activities; give priority to project-based assignments in order to promote asynchronous participation; provide additional time for completing exams and other evaluations when necessary" (Naffi et al, 2020). Moreover, it is concluded that the Dynamic Interactive Learning System (DILS) and the framework illustrating the dynamic model in e-learning is significant to address the gaps in this

research, to show how these influences students in Phnom Penh, Cambodia, the digital skills that teachers acquired, and what the real integration of new virtual tools or platforms are. Therefore, this research explored the lived experiences of technology-driven teachers during this time of the pandemic. It also focused on the experience of the use of digital tools that generate great possibilities for developing new techniques of information search, skills, and technological abilities within the school's academic framework, for teachers, who will be able to ask themselves how much knowledge they have of these new tools.

PURPOSE OF THE RESEARCH

The Covid 19 pandemic of 2020 has been seen as a catalyst of change from physical classes to e-learning for higher education institutions in Cambodia. The need to adapt and adopt the e-learning modality has pushed the teachers and learners to develop, create and innovate a workable e-learning system. Education during Covid 19 and beyond a new normal wherein e-learning will be part of the higher education institutions' teaching and learning modality. The literature shows that for effective learning there is a need for engagement and interaction between different components: the student, the technology, the pedagogy and the subject content. Considering that the characteristics of these components keep changing and evolving, a definition of the dynamic nature of these components must be included.

The successful implementation of the first e-learning program in 2005 has introduced the relatively new pedagogy of e-Learning in Cambodia. It shows that the e-Learning system is an effective and powerful approach in providing education to underserved students in the provinces in Cambodia as well as working professionals who seek further professional development. The indefinite suspension of physical classes has pushed higher education institution administrators, teachers and students to prepare and use e-learning to enable the continuity of education. This research covered the experiences and learnings of the higher education institution administration, teachers, students and also employers on establishing e-learning in higher institutions in Cambodia.

RESEARCH QUESTIONS

The research questions were:

a. How will the participants describe their lived experiences on e-learning? How will the participants describe e-learning?

b. What challenges did they encounter in e-learning?

c. What best practices can they share in their teaching using e-learning?

d. What dynamic model or framework can be developed for the interactivity of the e- learning management system in higher education institutions in Cambodia?

There are about 125 higher education institutions in Cambodia and two thirds of these are private. The research was conducted on public and private higher education institutions that are based in Phnom Penh – as most of these institutions are based. The participants were teachers in accountancy and finance conducting e-learning.

The selected participants for the research will cover a number of public and private institutions that offer accounting and finance courses. These higher education institutions are based in Phnom Penh, Cambodia.

THE CONCEPTUAL FRAMEWORK

The learning framework for 2030, prepared by the Organization for Economic Cooperation and Development (OECD) was designed to prepare Cambodians for 2030 and beyond (Leng et. al., 2020). The framework is comprehensive and is designed to guide the stakeholders on the education of the learners. Developing future-ready learners through advocating learner agency and cultivating the attitude of being change agents will demand extensive reformation of Cambodia's higher education system. During this pandemic, we have seen that Cambodia's education system had many challenges to hurdle especially when it was required to change from physical classes to distance learning. Reforming to meet the principles of the OECD Learning Framework 2030 may prove highly challenging, if not, beyond the current educational system's capacity and capability (OECD, 2018). Figure 2 below illustrates the OECD learning framework for 2030.

Figure 2

The OECD Learning Framework 2030
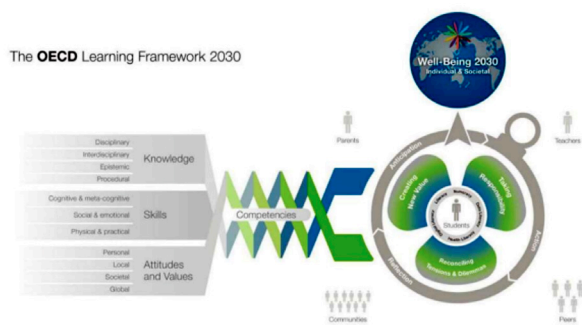
The research followed the initial concept as illustrated in the pentagon in Figure 3 which is actually anchored on the OECD Framework. The interactivity of the student component, pedagogy component, subject component, technology component and the dynamic characteristics of these components were investigated in this research. The student component included their experience, expectations and concept of interactivity in the learning process. The pedagogy component will include the teachers' experiences, ideas and innovations in enabling engagement and interactivity in their subjects. The subject component investigated the specific activities needed by each subject to enable the achievement of the learning outcomes, and also the skills set that the potential employers needed from the graduates of the course. The technology component involved the innovations that were used as well as those that could be used in the teaching and learning process. The dynamicity covered the feedback and response mechanism to the changing factors in each of the components.

Figure 3

A pentagon of dynamicity and interactivity of e-learning in Cambodia
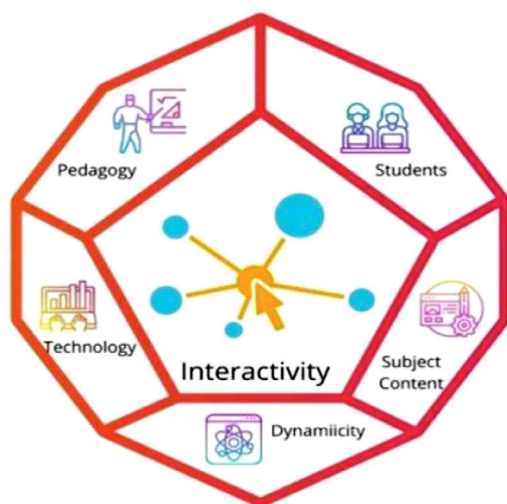
Reforms of the Cambodian e-learning system during and post-pandemic is vital. The pentagon presented may serve as a guide.

METHODOLOGY

Research method

The research took a qualitative approach. It focused on the lived experiences of the participants in the context that they are engaged with. "Husserlian descriptive phenomenology as a research method aims to explore and describe lived experiences. However, understanding the guiding features of phenomenology in the tradition of Husserl may be complex, especially when deciphering how intentionality, the natural attitude and the phenomenological reduction are articulated into a research study" (Welch & Barr, 2017). Hence, the "pentagulated" approach of the lived experiences of teachers, pedagogy, technology, subject content and dynamicity enabled the researcher for the reduction of the lived experiences into its intentionality.

Initially, the research took the form of secondary desk research to set up the questionnaire, the details of the participants and the timeline. After considering the results of the desk research, a primary field research was conducted using a set of questionnaires developed to gather additional and current data. Most of the data were of the e-learning system in Accounting and Finance Courses in higher education institutions in Cambodia.

Participants and stakeholders

The participants for this research were teachers in accountancy and finance conducting e-learning Purposive sampling was applied and the selection criteria for the participants were the following: 1) Teaching online e-learning for the past one year since the pandemic, 2) Faculty of accounting and finance; 3) Teacher in Cambodia through distance online learning or e-learning. The number of participants increased as the researcher anticipated a snowball sampling that normally occurs in qualitative data gathering and which is typical in phenomenological research.

Instrument

The data were collected through semi-structured interviews formulated by the researcher and given to the participants. The main instrument therefore of the study was the interviews to obtain more deep information regarding the participants' lived experiences.

Data collection procedures

The researcher herself went to Cambodia to personally attend to all the requests for data gathering, a similar letter was also sent to the respective administrators of the said institutions outlining the purpose, method of research, and the selected participants within their institution. The researcher then scheduled an interview with the selected participants.

Data analysis procedures

The data analysis was in the form of phenomenological reduction. "Husserl viewed the reduction as a means to confirming epistemological assumptions about the nature of knowledge, especially how it is viewed within consciousness. Husserl believed through a purging or cleansing of the mind to allow the essences of the phenomena to shine through (LeVasseur, 2003, as cited by Welch & Barr, 2017). Therefore, for Husserl, descriptions of the life-world not only aim to capture the raw essence of the phenomena or how the phenomenon was experienced, but take into consideration the nuances, the contextual underpinnings, the emotiveness, and the actions that were evoked in consciousness. Moreover, the phenomenological reduction resolves to suspend impressions, conceptions or beliefs surrounding the truth or accuracy of the phenomena in question" (Beech, 2003, as cited by Welch & Barr, 2017) this is evident in one of Husserl's proponent, Giorgi (2012), who coined the necessary essential steps towards phenomenological reduction. Thus, the researcher adapted the step-by-step procedure of Giorgi as founded upon by the Husserlian phenomenological reduction school of thought namely:

1. Getting to Know the Data. Giorgi's approach of analysis begins by repeatedly listening to the recordings of the interviews or reading the transcripts in order to become familiar with the information. Through this procedure, the researcher was able to gain a comprehensive understanding of all the transcripts and comprehend the significance of the experience from the participants' points of view. The researcher needed to adopt a "phenomenological mindset" to make sure they see the experience through the respondents' eyes (Giorgi, 2012).

2. How to Recognize Meaning Units. The entire description was dissected into its component pieces in this step. Classifying meaning units refers to the process of defining pieces. Each meaning unit only has meaning in respect to the broader meaning structure and expresses different parts of the participant's experience (Ratner, 2001).

3. Meaning Units are Regrouped in Clusters. This stage was crucial for developing a deeper comprehension of the information provided by the participants by identifying the study-relevant components and creating a coherent structure of the connotation of their experiences, as well as the relationships between those constituents (Giorgi, 2012). Those that were determined to be pertinent were regrouped in accordance with their entwined meanings in order to better convey the participants' lived experience (Giorgi, 2012). According to Ratner (2001), this procedure typically involves the context and specific background information that helps the claims to be understood. At this point, the participants' accounts of their personal experiences were elaborated with a personal goal (Giorgi, 2012; Ratner, 2001).

4. Meaning Clusters are formed by Regrouping Units. By identifying the study-relevant elements and building a coherent structure of the connotation of the participants' experiences, as well as the links between those elements, those that are deemed relevant were regrouped in accordance with their intertwined meanings (Giorgi, 2012). The narratives of the participants' individual experiences were now expanded upon with a personal objective (Giorgi, 2012; Ratner, 2001).

5. Integration and Synthesis. The researcher identified assertions that can generally be taken to be true after identifying the patterned structure of each description. Even though everyone has a unique set of social experiences, when people were grouped together in a certain setting, they were more likely to share certain behaviors, viewpoints, and beliefs (Ratner, 2001). In order to determine the similarities and contrasts in meaning between protocols that have something in common, they were compared throughout this step.

Figure 4 shows the process of Giorgi's method of data analysis that was used by the researcher for this study.

Figure 4

Giorgi's Method of Data Analysis Flow Chart
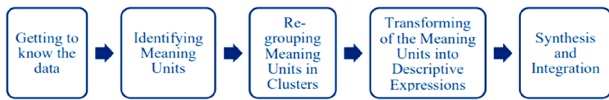
Source: Giorgi, 2012

The data collected were in the form of "interview transcripts, unstructured notes or personal texts - the first stage was to read through and get a feel for what is being said, identifying key themes and issues in each text. These points - from all the texts for a small scale project, or a sample of different ones where there are more than 15-20- may then be aggregated and organized with the aid of a mind-map or set of 'post-it' notes. The resulting list was used as a set of points to interrogate the texts and structure and summarize them ("what is this participant saying about…"). Points which weren't brought out through this process needed to be added" (Lester, 1999).

Hence, in general, after gathering the data as a result of the interviews, the researcher analyzed the data by means of abstraction and conceptualization of the participants' lived experiences through reflective evaluation and interpretation of the participant's account or narrative regarding the experiences of these teachers in Cambodia.

The objects of such actions further have been reduced to what appears relevant to the particular experience being attended to, and were validated as genuine from the participants' rich personal experience. In this method, the researcher attended to the phenomena in its "own self-giving mode", therefore meeting the need for scientific objectivity in respect to the subjective approach of phenomenological reduction.

RESULTS AND DISCUSSION

This chapter presents the findings and discussions of the data analysis used to improve students' education throughout the pandemic using interactive e-learning. The researcher collected the interview transcripts for this study through interviews and questionnaires, and the conclusions were obtained by ongoing comparative analysis of the transcripts from coding and later on discovering patterns that led to emergent themes through thematic analysis.

Participants discussed their personal experiences using e-learning during the pandemic. In connection with the development of a dynamic model for interactive e-learning for higher education institutions, the study's findings and analysis are meant to assist education leaders at various levels of educational governance, in both public and private educational organizations, in formulating responsive educational strategies that are flexible, consistent, efficient, and equitable. The following themes emerged in the light of constant comparison method using the steps as ascribed by Giorgi (2012).

Pulling through e-learning

E-learning may be helpful, particularly when everyone had to remain indoors for safety because of the epidemic. It inspired optimism for the future and a better education for the students. The themes that arose from the participants' viewpoints and helped to make e-learning effective are listed below.

Theme 1: Innovative teaching for effective learning

Innovative teaching entails originality and creativity in the instructor who modifies the teaching style and methodology. All Educational institutions all throughout the world are deploying new ideas, techniques, and technological advances to improve the knowledge of students. For effective learning, innovative teaching to assist students in achieving their goals, the current and future of education to their maximum capacity (Kalyani & Rajasekaran, 2018).

These were backed up by participant comments like,

"Learnt a lot from many different tools to support teaching and learning to attract students' attention during live class." (KPa1)

> "To improve more by researching and finding new ways to improve my strategic approach to e-learning." (KPa17)

> "Used a variety of class activities to get the students focused and involved during the whole session." (KPe15)

> "Make it a personalized learning for students and with lots of fun". (KPi18)

Applying cutting-edge teaching and learning techniques is essential if we want to inspire and cultivate a learning spirit in students and a passion for academic study at universities as well as lifetime learning. While academic staff members do educate, it is the responsibility of education to make sure that the material is understandable to students from a variety of cultural and linguistic backgrounds and that they quickly become familiar with the required

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standards. Any society's growth and progress are fueled by education. Information and knowledge are essential components for survival and growth in the modern world. Instead of viewing education as merely a tool for achieving social improvement, the information age, society must see education as a force for progress, powered by its wheels of knowledge and research that lead to advancement.

Theme 2: Building motivation through hardships

Success in the teaching-learning process depends on motivation. As the name implies, motivation is what "moves" us. It is the driving force behind everything we do. The key to effective teaching and learning is motivation. One of the most aggravating barriers to student learning, from the perspective of teachers, has always been a lack of drive. The human mind's complicated motivational system psychology and behavior that affects how people spend their time, how much effort they put into a task, how they feel and think about the task, and how long they stick with it (Bakar). According to Bakar, students' motivation is reflected in the learning tasks they select, the time and effort they invest in them, their perseverance with those tasks, and how they handle challenges they face during the learning process (Filgona, et al., 2020). These are backed up with participants statements such as:

> "I always focused on motivating the students to actively participate in the discussions." (KPa11)

> "Motivate them to join class even if we are far from each other." (KPb24)

> "Encourage students to get involved all the time." (KPg15)

> "Always use motivating words when they do their activities." (KPi2)

Due to its relevance to daily life, motivation is a crucial psychological term in education since it encourages and supports students to learn and enhance their academic performance. Since various forms of motivation underpin everything students do, including their drive to finish tasks that advance their knowledge, motivation is crucial to learning. As a result, students' lack of motivation to learn was recognized as a critical issue in education today, perhaps more than ever before, self-motivation to learn is extremely important. Teachers have a duty to make sure students are motivated to learn because modern education is required, therefore they cannot

assume students will be. Teachers must influence students to desire to do the right thing. Consequently, despite the fact that teachers may believe they have no influence over students' attitudes toward learning, they actually do. Generally speaking, students learn when their teachers expect and encourage them to learn.

Theme 3: E-learning is a necessity in new normal education

The coronavirus pandemic has led to changes in the teaching-learning process in institutions of higher learning and has had an impact on how teachers and students interact. Universities were forced to conduct all of their activities with students solely online as a result of the pandemic. In this regard, numerous countries took action to stop the virus from spreading and to guarantee the ongoing nature of the educational process, and institutions all over the world adopted online education (Coman, et al., 2020). While online education is typically thought of as a complement to traditional education, it proved crucial to keeping schools and institutions operating during the Coronavirus pandemic. According to what the participants said:

> "e-learning provide us more flexibility and convenience to our teaching and learning." (KPa25)

> "It's the learning platform via which lectures can be given and stored online. It promotes wide access among students from different areas." (KPb5)

> "E-learning is a part of supporting teaching and learning material. In today education, e-learning is required to use as a part of classroom." (KPg1)

Online learning is instruction delivered through the use of the Internet. Among other names, it is frequently referred to as "e-learning." Online education is only one sort of "distance learning," which refers to all learning that occurs remotely and outside of a regular classroom. An expanding demographic of students who are unable to engage in traditional classroom settings or who choose not to do so are served by online distance learning. These students include individuals who can't attend traditional classes, can't find a specific course at their preferred university, reside in remote areas, work full-time and can only study during or after work, or just prefer independent learning (Stern).

The requirement to maintain educational continuity in the context of the suspension of in-person instruction has presented difficulties to which nations have responded with various remote options and solutions, including adjusting the school calendar and how the curriculum is implemented, all of which have been adapted, prioritized, and adjusted in various ways. The characteristics of national or subnational curriculum, the nation's resources and capacity to build remote learning processes, the country's levels of racial and educational inequality, and the amount of time left in the school year must all be considered when making adaptations (ELAC-UNESCO, 2020).

Theme 4: Having aid from school and technology

Technology is a recent marvel that has made the most challenging activities eminently simple and more effective. Technology has made it possible for information to be shared instantly and for communication to happen more quickly and effectively in the field of education. Additionally, technology has made it possible for kids to learn and be involved in ways that they never have in a traditional classroom environment. Technology's place in the educational landscape is always evolving. The most recent innovation in education has been the use of technology to inspire, differentiate, and enable students to succeed and flourish in ways they have never been able to before (Harris, Al-Bataineh, & Al-Bataineh (2016).

Effective teacher assistance must be predicated on the professionalism of the teachers. Teachers attest to the fact that a surprising number of coaching and professional development methods aim to "teacher-proof" instructional strategies. Giving teachers the chance to incorporate new information and skills into their daily work is essential to effective teacher support. Their task is crucial and equally hard and difficult. Each student possesses a diverse variety of ever-changing needs and skills. The landscape of goals and demands in each school and district is constantly changing (Elliott, et. al., 2021). As shared by the participants:

> "CamEd Business School has made the transition from physical classes to online classes convenient. The materials, the learning platform and other activities were already digitalized years before the Covid 19 pandemic." (KPa35)

> "e-learning simply is carrying out teaching and learning activities with the help of electronic resources." (KPb11)

> "Our staff should be trained and confident in using the platform. Before using such we should conduct thorough professional training to get through these struggles." (KPf17)

How significant is technology in the classroom? The COVID-19 pandemic is rapidly illuminating the importance of online education as a component of teaching and learning. Teachers can use online learning as a potent teaching tool by incorporating it into current curricula rather than using it only as a crisis-management tool. Additionally, it aids pupils in developing crucial 21st-century abilities (School of Education, 2020). Virtual learning environments, video, augmented reality (AR), robots, and other technological tools can not only make classes more engaging but also more inclusive learning environments that encourage collaboration and inquisitiveness as well as give teachers the ability to gather data on student performance. However, it's crucial to remember that technology is a tool and not an aim in itself in education. The potential of educational technology depends on how educators use it and how it can be used to best meet the needs of their pupils.

A supportive environment for educators must encourage experimentation and risk-taking. Teachers must experiment with new approaches in order to improve their methods. If the accountability structure they operate under penalizes them for trying new things or taking innovative risks, they are unable to do so. Currently, teacher effectiveness is frequently extremely narrowly defined and evaluated based on results from standardized tests. Additionally, administrators frequently lack consistency in how they evaluate the performance of their faculty. Systems of accountability and teacher evaluation must be in line with goals for applying new knowledge (Elliott, et. al., 2021).

Theme 5: Prioritizes students' effective learning and essentials

Students want to feel important and a part of their educational community. Students made it clear that they wanted to advance at their own paces, have more options, be acknowledged for their skills, and expand their learning outside of the classroom. Students frequently complained that they needed social engagement and peer relationships but that their educational experience was so heavily centered on personal performance (Global Science of Learning Education Network, 2021). At some point, every student will feel anxious, face difficulties (social

or academic), and fail. Teachers can encourage relationships and establish physically and emotionally secure learning environments for their students in order to support their development of skills for successfully managing stress and academic and social setbacks. These are emergent in statements such as:

> "We also need to learn about the learners: what they need, what they lack, and their strengths and weaknesses." (KPg10)

> "Students will be motivated to attend and participate in the online class if the lecturer is consistent in his/her efforts to encourage student engagement." (KP15)

> "Encouraging students to form small study groups may help them keep pace with their study." (KPj8)

If done well, education may give each child experiences that will grow and advance their capacity for problem-solving, creativity, caring, and ownership of learning. A school principal's main duty is to allocate the limited time, space, and funding to maximize students' happy and fruitful school experiences, in addition to making sure that all students have caring, effective teachers who create the classroom environments and opportunities for these things to occur (Cunat, 2015). As a result, learners are able to obtain knowledge without any obstacles when the teacher recognizes their flaws and takes action to overcome them. This makes sure that the learners who are struggling don't feel excluded or treated differently from others.

Downside of e-learning

Despite the substantial benefits of online learning, students nevertheless face a number of difficulties that ultimately have either limited or detrimental effects. In certain instances, is maintained through distance and reflection, which prevents student contact. Since exams are typically given via the e-learning approach, there is less chance of preventing illegal actions like plagiarism and cheating (Arkorful & Abaidoo, 2015).

Theme 6: Experienced challenges

The rapid advancements in technology made it necessary to update schooling. They had to be able to learn at any time and anywhere for it to be successful (Wolfinger, 2016). Online education has been made available in various international institutes throughout the past 20 years. However, the majority of schools, colleges, and universities do not adopt this teaching method, and their personnel are unaware of its components. The following themes emerged from the participant replies that were thematically analyzed:

> "It is quite challenging because when we switch into online immediately." (KPa1)

> "It is challenging due to the difficulties of assessing the students' attention and engagement." (KPa14)

> "It's challenging and dependent on technology, especially on the Internet connection; lacks personal interaction with the students." (KPa21)

The assumption of digital choice, digital competency, and digital aptitude for online learners is further complicated by the possibility that external student cohorts will include mature age (non-digitally native) students. Because of this, assumptions about technological preferences and capabilities should be put on hold, regardless of the cohort's demographics, at least until the essential social and peer support systems are in place. Both facilitators and students may find it difficult to adjust to the online setting (Jaques & Salmon, 2007; Kirkwood & Price, 2014). When deciding which technologies to utilize, Jaques and Salmon (2007) compared the significance of picking which technologies to use to the significance of understanding learners and their capacities. Building relationships online is crucial if you want to facilitate group activities because they are essential to successful group work.

Theme 7: Experienced numerous abrupt changes to their educational method

Every aspect of life was impacted by the pandemic, including schooling. The worldwide lockdown culminated in a lockdown of educational institutions as the crisis got worse. For the educational administration, this closure of schools, colleges, and universities was a tough situation with few alternatives. This large unanticipated switch from a traditional learning environment to an all online learning setting has altered the ways in which education is delivered to pupils (Khalil, Mansour, et al., 2020). These are evident in comments such as:

> "Due to the pandemic, I had to each online. I had to adjust the teaching material to fit e-learning.I need to be familiar with technology, using mic, webcam and design online quiz and so on." (KPa31)

"There were some teaching methodologies could not be applied online which require the replacement. So lesson plan need to revise accordingly." (KPa33)

"Short notice and being the first time my students where expose to such experience" (KPd16)

The COVID-19 epidemic has abruptly changed many facets of global civilization, upending everything in its path. Everything has been affected, not only the education industry, which has witnessed some unexpected shifts in many different corners of the world. As a result of COVID-19, developing countries have abruptly switched to online pedagogy. These difficulties and disparities are now the norm in the developing world's educational system (Oyedotun, 2020). Several university faculty members and colleagues began investigating all types of video-conferencing platforms and applications within days of the directions. Along with the university's Moodle platform, other platforms were used, including Google Meet, Skype, Kahoot, emails, and Zoom. based on the generally favorable Zoom platform usage experience of numerous colleagues.

Theme 8: Disadvantages in e-learning

Despite the benefits that e-learning provides when used in education, there are some drawbacks as well. Studies confirm that there are drawbacks to e-learning. For instance, Dowling et al. (2003) contend that, despite assertions to the contrary, making learning materials available online only enhances learning outcomes for certain types of group assessments. Mayes (2002) also questioned if e-learning is more than just a supplement to traditional teaching techniques. The most obvious criticism of e-Learning is the total lack of crucial personal interactions, not only between students and instructors but also between students of different classes. These are shown in participants remarks such as:

"Some students cheating being online, but they are not." (KPa28)

"less interaction between lecturer and students, lecturer can not observe student behavior and don't know what students are doing." (KPa30)

"No outdoor activity with the students. Lack of social and emotional skills for the students." (KPb4)

"Another challenge is to keep students concentrated during the whole session.

They easily get distracted by their surroundings." (KPc15)

"Because it is technology-dependent; also, you cannot see whether the students are listening or not during the lecture." (KPd21)

E-learning as a mode of instruction forces students to engage in reflection, distance, along with a lack of communication or connection. Therefore, a very powerful inspiration is necessary, as well as time management skills in order to lessen such impacts. E-learning as a method can help students' communication abilities improve. Even if you can be quite knowledgeable in academics, they could not have the necessary abilities to impart their knowledge to others. Additionally, not all academic disciplines or fields can use the e-learning method. For instance, it is impossible to study adequately using e-learning in the pure scientific fields that include practice (Arkorful, 2014). Digital tools are used in e-Learning for both teaching and learning. It makes use of modern tools to let students study wherever they are and whenever they choose.

Theme 9: Internet difficulties

Since everyone is impacted, lockdown briefly halted the educational system. Millions of pupils worldwide are impacted and some others have already renounced their status as students. The availability of learning tools or technologies is another relevant topic in this study that is equally essential. Even though we live in a time where technology tools and devices are readily available, some people still lack one (Asio, Gadia, et al., 2021). Following further confirmation, the participants' real responses were as follows:

"Giving activities to them, some of them miss those activities. This may mean that students face poor Internet connectivity or they do other task simultaneously." (KPc2)

"1. The internet connection is very unstable in Cambodia, especially for students who work from home in the rural areas/provinces.

"It is difficult to get feedback from students during zoom session. Communication is difficult in general." (KPc7)

"Classes are often disrupted by Internet problems both from the lecturer's and student's sides; students often get disconnected." (KPc21)

"In Cambodia, access to stable Internet is still limited. Many students use their phone internet which is not reliable and expensive." (KPd18)

The internet is helpful for quickly finding material and enables pupils to complete their assignments with only one search on a search engine. Both students and teachers experience interruptions during lectures because of the unstable internet and lack of devices that can support online learning. The learning process is drastically different for students when they go from traditional classrooms and in-person teacher instruction to computer-based training in a virtual classroom. Many students may not have access to the internet connection needed for online courses, which causes them to fall behind in their virtual lessons (Saminathan, 2020). Online learners are lacking in effective communication abilities. They lose all control if there are any technological issues when conducting a live session or dealing with pupils.

The following major themes, which were intricately connected and intertwined as to what e-learning is in the new normal and the process involved in initializing it, are thus captured by the emergent framework as the teachers go through the theory's " Developing a Dynamic

Model for Interactive e-Learning " process in the new normal, which became the core category: "Innovative Teaching for Effective Learning", "Building Motivation Through Hardships", "E-learning is a Necessity in New Normal Education", "Having Aid from School and Technology", "Prioritizes Students' Effective Learning and Essentials", and the challenges that e-learning encounters are: "Experienced Challenges", "Experienced Numerous Abrupt Changes to their Educational Method", "Disadvantages in E-Learning", and lastly, "Internet Difficulties". The theory of Developing a Dynamic Model for Interactive e-Learning in the new normal is shown in Figure 5 as an emergent framework.

Figure 5

Emergent Dynamic Model Framework for Interactive e-Learning
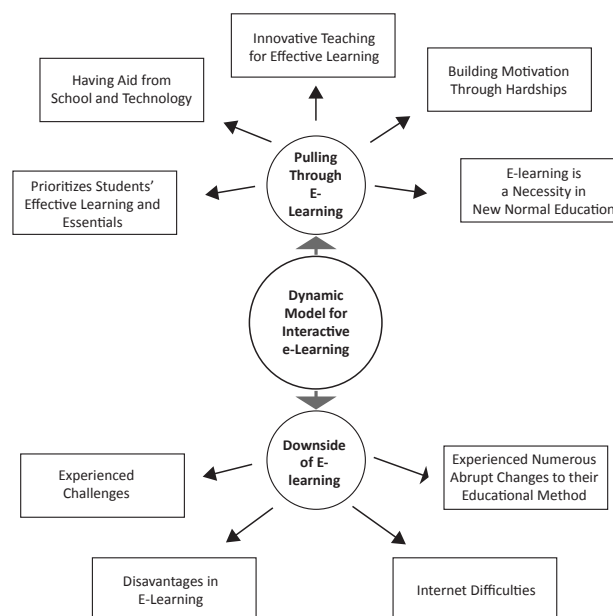
CONCLUSION

This section of the research paper presents a summary of the findings, conclusions, and suggestions that show how the researcher discovered the necessary answers to the statement of the problem and research questions as a result of this study based on the analysis in the preceding chapter.

The study's findings and outcomes are summarized as follows:

1. The following themes — Innovative Teaching for Effective Learning, Building Motivation Through Difficulties, E-Learning is a Necessity in New Normal Education, Having Aid from School and Technology, Prioritizes Students' Effective Learning and Essentials — emerged as the participants' pertinent insights in the preparation of e-Learning.

2. The participants in the e-learning faced several urgent obstacles, including: challenges, several abrupt changes to their educational method, disadvantages of e- learning, and finally, internet problems.

3. The framework shown in Figure 5 is suggested as a way for professors to assist students in their academic pursuit of e-learning through the pandemic or anticipated continuation of e-learning once face-to-face or rather in-person classes have resumed.

The overview of the findings leads to several conclusions. First, the researcher found it sufficient to state that teachers during this new normal understood innovative pedagogy in terms of technological integration that will amplify learning among the various significant strategies introduced by the participants in the implementation of their own interactive e-learning in the new normal. To prioritize the demands of the learners, the participants also saw the use of e-learning as crucial, essential, and required for the learning to be accomplished.

Furthermore, the themes that emerged from the insightful sharing of the chosen participants, which showed various approaches and activities affirming the various strategies and techniques that must be used in online and modular learning, are consolidated into the proposed framework for a dynamic and effective Interactive e-Learning for a better understanding for teachers towards a more efficient and effective approach.

RECOMMENDATIONS

Several suggestions have been put up for thought in light of the study's findings, conclusions, and results. First, improving the balance between educational services, teacher professional collaboration, and close work with families based on the major insights on e-learning may be necessary. Second, it is also important to use creative pedagogy activities that promote connection and affirmation. Third, more seminars and training programs for teachers in the use of innovative pedagogy are also needed, which should center on the following themes: experiencing many abrupt changes to their educational method; receiving support from their school and technology; facing challenges; and innovative teaching for effective learning.

Lastly, the emergent framework or model may therefore serve as a guide for future professional growth in becoming innovative and adapting strategies suited for each specific situation of teaching and learning. This professional growth may be made possible through the ongoing efforts of the educational stakeholders especially the educational leaders and educational decision makers to make 21st-century strategies and pedagogies an initializing experience for every teacher to nourish and cultivate even beyond the new normal.

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