A GUIDELINE FOR DEVELOPING ADMINISTRATORS' DIGITAL COMPETENCE IN THE NEXT NORMAL ERA AT KAMPONG CHHNANG PROVINCIAL TEACHER TRAINING CENTER, CAMBODIA

THESIS

OF

SOKVEASNA SREY

MASTER OF EDUCATION, DEPARTMENT OF EDUCATIONAL ADMINISTRATION

FACULTY OF EDUCATION, RAMBHAI BARNI RAJABHAT UNIVERSITY,

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การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อ 1) ศึกษาสมรรถนะดิจิทัลของผู้บริหารในยุคปรกติถัดไปในศูนย์ฝึกอบรมครูประจำจังหวัดกำปงชะนังประเทศกัมพูชา 2) วิเคราะห์สมรรถนะดิจิทัลของ ผู้บริหารศูนย์ฝึกอบรม และ 3) นำเสนอแนวทางการพัฒนาสมรรถนะดิจิทัลของผู้บริหารในยุคปรกติถัดไปในศูนย์ฝึกอบรม เป็นการวิจัยเชิงคุณภาพโดยใช้วิธีการสัมภาษณ์เชิงลึกและการสนทนากลุ่ม ผู้ให้ข้อมูลสำคัญ จำนวน 15 คน ประกอบด้วยผู้บริหาร 7 คน ศึกษานิเทศก์ 4 คน และครูฝึกอบรมครู 4 คน ได้มาโดยวิธีการเลือกแบบเจาะจงตามเกณฑ์การคัดเข้า วิเคราะห์ข้อมูลด้วยการวิเคราะห์เนื้อหาและนำเสนอด้วยวิธีการพรรณนา

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Abstract

This research aimed to: 1) study administrators' digital competence in the next normal era at Kampong Chhnang Provincial Teacher Training Center, Cambodia, 2) analyze the administrators' digital competence at the center, and 3) offer a guideline for developing administrators' digital competence in the next normal era at this center. The researcher used the qualitative method to conduct the study which included in-depth interviews and focus group discussions with 15 key informants, consisting of 7 administrators, 4 technical supervisors and 4 teacher trainees who were selected by purposive selection according to the inclusion criteria. The data were analyzed using content analysis and presented in a descriptive style.

The results of the research were as follows: 1) the digital performance of administrators at Kampong Chhnang Provincial Teacher Training Center consisted of five key areas: information and data literacy, communication and collaboration, digital content creation, safety, and problem solving; furthermore, the use of online platforms as sources of information and communication had limitations and required further development; 2) the school administrators need to develop their competence in the

five areas to enhance their skills in using digital technology more efficiently and proactively; and 3) the guideline for developing the administrators' digital competences in the next normal era at Kampong Chhnang Provincial Teacher Training Center, Cambodia consisted of three main factors: stakeholder support, teacher training center policy and strategic plan, and administrators' personal visions.

Keywords: Administrators, Digital Competence, Next Normal Era

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Sokveasna Srey

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CHAPTER 1

INTRODUCTION

Background of the Study

Digital Competence has become increasingly important in society, including daily communication and working environments. The management and operations of many different types of businesses have changed due to the quick advancements in digital technology (Laorach and Tuamsuk. Online. 2022). Using digital is the high need for the 21st century as it is considered as one of the most important skills among the others. With that, it has been served in every sector, including the education field. In a society with a rapidly evolving electronic environment, a set of skills, knowledge, and attitudes known as "digital competence" are necessary for educational routes, professional integration, and civic engagement (Schola. 2020 : 3). Entering the digital world now offers more than just a chance to stay updated and keep up with technical advancement. Teachers, project teams, politicians, health experts, governments, and society should all engage in multidisciplinary discussion on the need to promote equity and social inclusion for the older adult population during and after the epidemic. However, it is important to consider the issue of those who lack digital skills and how these abilities might be acquired without attending in-person sessions (Kerolyn and et al. online 2021). The transition of society to a digitalized environment requires knowledge, attitudes, and digital competency abilities (Eri and et al. 2021 : 4).

To fulfill the demands of Cambodia's Information and Communications Technology (ICT)-focused education agenda, administrators' digital competence is important and needs to be strengthened. As Ukanwa and Chiemeka (2021 : 915) stated, Information and Communication Technology (ICT) is presently common in schools because it makes administrative tasks like data storage, knowledge management, and decision-making easier. Therefore, it is necessary to improve and promote the use of digital education in Cambodia. According to the Cambodian Ministry of Education, Youth and Sport (MoEYS), the competitive advantage of nations is driven by their human resource capabilities in 21st century capabilities, particularly the strategic use of Information and Communication Technology (ICT). Additionally, Ministry of Education, Youth and Sport (MoEYS) will enhance its capacity to guide Information and Communications Technology (ICT) for Education innovation throughout the industry through the Department of Information

Technology (DIT). DIT will evaluate the relevance of international best practices for the Cambodian environment while advising Ministry of Education, Youth and Sport (MoEYS) technical line departments on potential ways to improve their use of information technology (MoEYS. 2018 : 5). In early 2020, COVID-19 severely hampered efforts to modernize the educational system in Cambodia. However, the pandemic has also provided a chance to enhance the use of Information and Communication Technology (ICT) and contemporary technology in education as well as deepen educational reforms. In reality, the pandemic is a driving force behind the modernization and transformation of the educational system. In order to sustain Information and Communication Technology (ICT) adoption and integration in education, all essential stakeholders particularly the Ministry of Education, Youth and Sport (MoEYS) need to capitalize on the crisis and build on the current momentum (Heng. 2021 : 7). Accordingly, administrators' digital competence development has to be prioritized in order to meet the needs of the new adoption of the Next Normal Era.

Administrators, teacher trainers, and teacher trainees from the Kampong Chhnang Provincial Teacher Training Center (PTTC) have been sent to engage in various digital education training, such as MOOCs and Digital Development for Digital Economy (PTTC. 2023). However, administrators in Kampong Chhnang Provincial Teacher Training Center (PTTC) find that their digital competence is still insufficient. An ICT teacher trainer in PTTC is encouraged to train and share technology knowledge among colleges and administrators in order to strengthen the use of digital technologies in teaching and administrative management (PTTC. 2022). The factors that make the administrators' digital competence improve are still limited because of the lack of training and insufficiency of Information and Communication Technology (ICT) resources. According to the previous study, before the COVID-19 disruption era, there was a dearth of Information and Communication Technology (ICT) organization development. UNESCO noted difficulties with the project, such as a lack of Khmer language resources, inadequate English proficiency of the trainers and trainees, inadequate infrastructure, a lack of hardware, and a lack of action by the Ministry of Education, Youth and Sport (MoEYS) to put the current Information and Communication Technology (ICT) in education policy into practice (Richardson. 2008 : 72). Consequently, the educational institution administrators in Cambodia, including those in Kampong Chhnang Provincial Teacher Training Center (PTTC) lack digital competence and were unprepared to adjust

to the COVID-19 crisis. To illustrate, the whole institute just shut down on March 16, 2020, according to the announcement from Ministry of Education, Youth and Sport (MoEYS), and all the trainees were sent home and did not get to have proper training during the pandemic (MoEYS. 2020 : 3). The social media platforms used for accessing the documents and communicating were Telegram, Messenger, and Facebook. During the crisis, the Ministry of Education, Youth and Sport (MoEYS) also put efforts into developing other platforms, such as Google Meet and Zoom, and encouraged all the administrators, educators, and trainers to use them. However, the performance was still low due to a lack of training, digital tools, and internet access. In Kampong Chhnang Provincial Teacher Training Center (PTTC), administrative management is still carried out using conventional methods with little support from Information and Communication Technology (ICT) facilities. Therefore, the goal of this research is to study, analyze and offer a guideline for the administrators in the Next Normal era in Kampong Chhnang Provincial Teacher Training Center (PTTC), Cambodia. It is also hoped that the findings will be helpful for the center as well as other educational institutions in Cambodia in the future.

Research Objectives

1. To study administrators' digital competence in the Next Normal Era at Kampong Chhnang Provincial Teacher Training Center (PTTC).
2. To analyze administrators' digital competence in the Next Normal Era at Kampong Chhnang Provincial Teacher Training Center (PTTC).
3. To offer a guideline for developing administrators' digital competence in the Next Normal Era at Kampong Chhnang Provincial Teacher Training Center (PTTC).

Research Benefits

The research objectives aim to study, analyze, and offer a guideline for developing administrators' digital competence in Kampong Chhnang Provincial Teacher Training Center (PTTC) in the Next Normal Era.

Optimistically, the study will drive effectiveness in ICT school management and make its process more convenient. Moreover, this will also contribute to the national response and recovery plan in the education system in Cambodia in terms of using ICT in education, as the

Ministry of Education, Youth and Sport (MoEYS) stated that they would implement a new management and administrative strategy to modernize procedures, improve governance and performance monitoring, and incorporate ICT as a teaching, learning, and knowledge-sharing tool across the education sector for the transition into the 21st-century workplace (MoEYS. 2018 : 2-3).

Last, but not least, it is hoped that the guideline for developing ADC Administrators' Digital Competence (ADC) will tackle the problem of administrators' digital competence at the Kampong Chhnang Provincial Teacher Training Center (PTTC) and provide critical success factors for strengthening their abilities in managing school administration tasks with digital technologies more efficiently and confidently with modernization to meet 21st-century skill needs. It is envisioned that this guideline can be implemented not just in the setting of the teacher training center but also in other educational institutions in Cambodia.

Scope and Limitation

This research study has defined the scope and limitation as the following:

Population and Key Informants

1. Population

The scope of the research is to study administrators' digital competence in the Next Normal Era in a teacher training center, not as a whole educational systematic intervention. The study is conducted at Kampong Chhnang Provincial Teacher Training Center (PTTC), Cambodia, and its purpose is to study, analyze, and offer a guideline for administrators' digital competence in the Next Normal Era. The population of the study consists of administrators, technical supervisors, and teacher trainees who are currently working and studying at the training center.

2. Key Informants

The key informants are selected by using judgmental sampling, also known as the purposive method. This method is one such skill that needs to be applied and used so as to be effective for a qualitative research study (Tongco. 2007 : 155). It occurs when a researcher adds instances or people to sample because the researcher believes such participants are significant enough to include (Taherdoost. 2016 : 23). The key informants are chosen based on the researcher's assessment of who can provide the best information for the research study's objectives. As a result, the researcher selects administrators, with at least five years of experience and currently working

at Kampong Chhnang Provincial Teacher Training Center (PTTC), technical supervisors, who are also currently employed there, and teacher trainees, whose roles as course and class presidents both come from the second years and who are enrolled in a computer course at the training facility, as the key informants. So, in total, there are 15 key informants selected: 7 administrators, including a director and vice-directors, 4 technical supervisors, and 4 teacher trainees.

Variable Study

This research studies administrators' digital competence regarding the following areas:

1. Information and Data Literacy
2. Communication and Collaboration
3. Digital Creation
4. Safety
5. Problem Solving

Definitions

Administrators' Digital Competence:

Administrators are those who plan the activities and arrange the administrative management process. While digital competence is defined as the capacity to confidently utilize electronic media for work, entertainment, and communication, in addition to logical and critical thinking, managing information, and high-level communication skills. In light of the definitions provided above, it can be concluded that the term "administrators' digital competence" refers to the capacity to confidently utilize electronic media for work, including entertainment, communication, and information management, at a high level with the critical and logical thinking of people who plan the activities and organize the administrative management process.

1. Information and Data Literacy: is defined as the ability to manage digital information and data by identifying, locating, filtering, retrieving, storing, organizing, analyzing, and managing it while determining its applicability.

2. Communication and Collaboration: is defined as the ability to communicate in digital spaces, exchange resources using online tools, connect with others and work together using digital technologies, engage in community and network interaction.

3. Digital Creation: is defined as the ability to produce creative works and media products, repurpose and modify digital content, and deal with and put into practice intellectual property rights and licensing.

4. Safety: is defined as the ability to measure security, make it safe and sustainable to use, protect data, personal safety, and digital identity.

5. Problem Solving: is defined as the ability to identify digital requirements and resources, address conceptual difficulties using digital methods, apply technology creatively, update one's own and other people's competencies, and solve technical challenges.

Administrators are those who plan the activity and arrange the administrative management process.

Digital Competence is defined as the capacity to confidently utilize electronic media for work, entertainment, and communication, in addition to logical and critical thinking, managing information, and high-level communication skills.

Next Normal Era time before COVID-19 and the post-eradication world in which everything will return to normal.

Research Conceptual Framework

The research aims to study, analyze, and offer a guideline for developing administrators' digital competence in the next normal era in Kampong Chhnang Provincial Teacher Training Center (PTTC), Cambodia. The researcher has studied, analyzed, and summarized the concepts of previous studies such as (Heng 2021 : 3) ; (Richardson. 2008 : 72) ; (MoEYS. 2018 : 2-3) ; (Dionys. 2012) ; (Mathew and et al. 2009 : 2) ; (Heng and Sol. 2021 : 34) ; (Phonnong and Keeratichamroen. 2022 : 15) ; (Kanoksilapatham. 2022 : 346) ; (Joungtrakul and et al. 2021 : 31) ; (Banga and Velde. 2020 : 1) ; (Em. 2023 : 1) ; (IIEP-UNESCO. 2020) ; (Park. 2016 :) ; (Nguon. 2015 : 60) ; (MoEYS. 2004 : 14) ; (MoEYS. 2021 : 5) (UNESCO. 2020 : 6) ; (Lindley. 2009 : 4) ; (Surya.2011) ; (Sonsaard and Darbavasu. 2019 : 528) ; (Serhan. 2019 : 29) ; (Sombunsin and Wannasri. 2022); (T Bashkireva and et al. 2020 : 4); (Ilomäki and et al. 2011 : 8); Techataweewan and Prasertsin (2017 : 217) ; (Van Dijk J.A.G.M van Deursen A.J.A.M. 2014) ; (Garcia and et al. 2021 : 198) ; (Centeno and et al. 2019 : 3) ; (Tsankov and Damyanov. 2019 : 4) ; (García and et al. 2023) ; (Guitert and et al. 2020 :

1) ; (Redecker. 2017) ; (Kelentric and et al. 2017 : 1) ; (Krumsvik. 2011 : 48-49) ; Calvani and et al. (2010 : 161-162) ; (Sá and Serpa. 2020) ; (Gewerc and et al. 2020 : 374) ; (Trubavina and et al. 2021 : 4); (Moreno and et al. 2021 : 13) ; (Cho F and Nagoya C K (2018 : 1) ; (Luk and et al. 2022 : 30) ; (PTTC. 2019) ; (PTTC. 2020) ; (PTTC. 2022) ; (PTTC. 2023) ; (Llomaki and Lakkala. 2018) ; (Apsorn and et al. 2019) ; (Soeung and Chim. 2022) ; (Asio and Bayucca. 2021) ; (Oznacar and Dericioglu. 2017) ; (Yuliani and et al. 2023) ; (Rina and Sugiarto. 2022) ; (Ellis and et al. 2021) ; (Luecha and et al. 2022) ; (Suksai and et al. 2021); (Balakrishnan, 2023) and developed the conceptual framework shown in the following diagram (Figure 1).

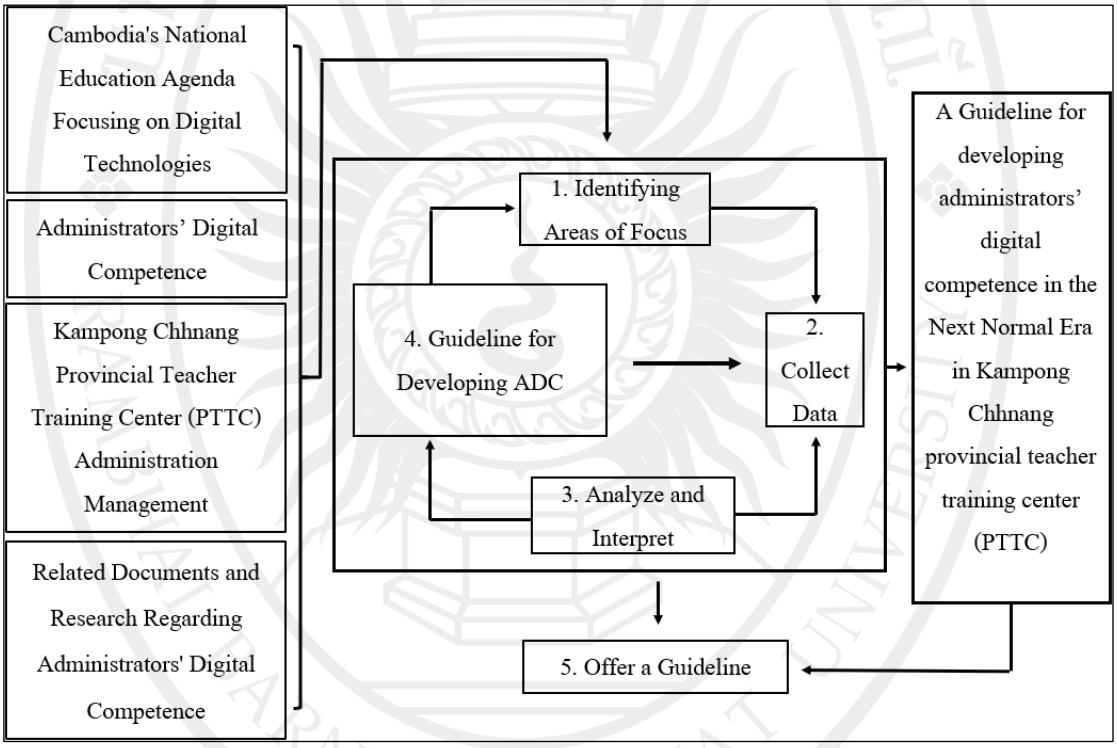

Figure 1 Conceptual Framework

CHAPTER 2

LITTERATURE REVIEW

In this chapter, the researcher studied the following, theories, other related documents, and research for the research study, "A Guideline for Developing Administrators' Digital Competence in the Next Normal Era at Kampong Chhnang Provincial Teacher Training Center, Cambodia."

1. Cambodia's National Education Agenda Focusing on Digital Technologies
    1.1 Administrators' Digital Competence and ICT in Cambodian Education
    1.2 Digital Competence in Cambodian Education before the COVID-19 Era
    1.3 Digital Competence in Cambodian Education in the COVID-19 Era
    1.4 Importance of Administrators' Digital Competence in Cambodian Education
2. Administrators' Digital Competence in Education Overview
    2.1 Administrators in Education Overview
    2.2 Digital Competence in Education Overview
    2.3 European Digital Competence Framework in Education
    2.4 Digital Competence Transformation in Education
3. Kampong Chhnang Provincial Teacher Training Center (PTTC) Administration Management
    3.1 Background and Former Training Formular Transformation
    3.2 Current Infrastructure and Training Formular
    3.3 Goals and Strategy Focusing on Improvement and Digital in Education
4. Related Documents and Research Regarding Administrators' Digital Competence

Cambodia's National Education Agenda Focusing on Digital Technologies

Administrators' Digital Competence and ICT in Cambodian Education

The use of Information and Communications Technology (ICT) in Cambodia's education system remains restricted, and the government must engage in digitalizing education, supporting Information and Communications Technology (ICT) research and development, increasing public-private partnerships, encouraging autonomous learning, and enabling the adoption of blended

learning. Stakeholders such as educational institutions, instructors, parents, students, and the commercial sector will also play an important part in realizing Cambodia's digital transformation of education. Despite the fact that the COVID-19 epidemic has caused significant disruption, it also offers Cambodia with a wonderful chance to promote Information and Communications Technology (ICT) integration in education and support the digital transformation of its education system (Heng. 2021 : 3).

Due to a shortage of human resources and equipment, Cambodia's Information and Communications Technology (ICT) infrastructure in education has not yet been completely developed. The scarcity discovered of ICT organization development prior to the COVID-19 disruption era is that UNESCO noted challenges that hampered the project, such as a lack of Khmer language resources, poor English skills of trainers and trainees, poor infrastructure, a lack of hardware, and a lack of action taken by the MoEYS to implement the current Information and Communications Technology (ICT) in education policy (Richardson. 2008 : 72). As a result, most educational institutions administrators are not fully trained, and their digital competence is still limited. Therefore, national education policy should prioritize and reinforce educational institutions administrators' digital competence in order to prepare them to meet the 21st century's needs.

Recognizing this challenge, Ministry of Education, Youth, and Sport (MoEYS) in Cambodia designed and implemented a strategy to accelerate education in Cambodia at all levels, so that students, educators, and administrators can use Information and Communications Technology (ICT) and digital tools not only for study and work, but also for their careers:1) MoEYS will ensure that all Cambodian students who complete a formal program of study can use their ICT knowledge and abilities to further their education and professional career.2) MoEYS will improve the efficiency and effectiveness of teaching and learning in teacher training centers, schools, and other educational institutions by utilizing ICT technologies and e-resources. 3) MoEYS will use e-learning to help with educational service delivery to all educational sub-sectors, as well as institutional human capacity building and lifelong learning. 4) By making systematic use of information, the MoEYS will increase its efficiency and capability for evidence-based decision-making and knowledge-sharing, while also expanding its capacity for administration, operations, and digital data collection. 5) MoEYS will provide infrastructure, connectivity, and design standards, as well as integrate all national and sub-national offices into a single networked system.

To provide resilience, the system will provide adequate physical and logical security, as well as offline replication. 6) MoEYS will prioritize the usage of open-source software and Khmer language applications for teaching and learning while adhering to Cambodian copyright regulations. To inform MoEYS of institutionalization possibilities and assure the availability of an operating budget, all Information and Communications Technology (ICT) intervention plans must include a total cost of ownership study. 7) MoEYS will advocate for media literacy, user privacy, and ethical ICT use, as well as the prevention of all forms of cyberbullying and harmful technology use. 8) MoEYS will provide the required financial resources from the RGC budget to support ICT in education, as well as manage PPP and donor partner assistance for both capital and recurring expenditures (MoEYS. 2018 : 2-3).

Overall, the use of Information and Communications Technology (ICT) in Cambodia's education system is still limited, and the government must invest in digitalizing education, promoting Information and Communications Technology (ICT) research and development, expanding public-private partnerships, fostering autonomous learning, and facilitating the use of blended learning. Prior to the COVID-19 disruption era, UNESCO discovered a scarcity of Information and Communications Technology (ICT) organization development, such as a lack of Khmer language resources, poor English skills of trainers and trainees, poor infrastructure, a lack of hardware, and a lack of action taken by the MoEYS to implement the current ICT in education policy. However, Ministry of Education, Youth and Sport (MoEYS) has devised and implemented a plan to accelerate education in Cambodia at all levels, allowing students, educators, and administrators to use ICT and digital technologies not just for study and work but also for their careers.

Digital Competence in Cambodian Education Before the COVID-19

Cambodia's school system has gone a long way since the country's recent devastation. During the Khmer Rouge regime, educational institutions were abandoned, books were burned, and professors and intellectuals were either killed or fled to other countries. Following the fall of the Khmer Rouge regime in 1979, turmoil and bloodshed prevented significant advancements in schooling. There are very few instructional aids and digital learning resources accessible. Training for teaching and academic professionals is insufficient. Despite the fact that basic computer skills training has been given for teacher trainers since 2003, there have been fewer opportunities for

teachers to practice owing to a lack of computer facilities (there were on average only 2 computers for 15 teacher trainers per college). The final assessment for the program's outcome is based on observations of lessons and monitoring of the use of ICT equipment (Dionys. 2012).

Canadian-born Jeremy Hockenstein, CEO and co-founder of Digital Divide Data, had visited Cambodia on holiday from his employment as a McKinsey consultant in the United States in November 2000. Even while Cambodians seemed to appreciate education and sought methods to empower themselves, he was shocked by the country's degree of poverty and the absence of opportunity for young people to develop jobs and provide for their families. The circumstance presented a variety of human resource management issues for Digital Divide Data (Mathew and et al. 2009 : 2).

According to the country's history, administrators' digital competence was still poor before the pandemic due to a lack of resources and training courses, and ICT infrastructure management at educational institutions was also underdeveloped. Prior to the COVID-19 outbreak, Cambodian higher education infrastructure and learning resources were mostly used for on-campus teaching and learning. As a result, when educational institutions were ordered to close, the absence of digital infrastructure and learning materials became a serious difficulty for the majority, if not all, of Cambodia's educational institution (Heng and Sol. 2021 : 34).

Overall, since the country's destruction, Cambodia's education system has come a long way. Educational institutions were closed down, books were burned, and academics and intellectuals were either executed or fled to other countries under the Khmer Rouge government. Following the overthrow of the Khmer Rouge administration in 1979, unrest and bloodshed hampered considerable progress in education. There are limited instructional aids and digital learning materials available. When educational institutions were ordered to close during COVID-19, the lack of digital infrastructure and learning materials posed a severe challenge for the majority, if not all, of Cambodia's educational institutions. This demonstrates that digital competence in Cambodian education has not completely matured and is not yet prepared for upcoming events such as the COVID-19 crisis.

Digital Competence in Cambodian Education in the COVID-19

The COVID-19 epidemic has affected many aspects of human life. One of the educational problems has been the shift from onsite to remote learning, as institutions with online facility problems must do the same (Phonnong and Keeratichamroen. 2022 : 15). During the crisis, everyone must maintain social distance, and most workplaces, including educational institutions, demand their employees work from home; understanding digital technologies is therefore essential. Digital technology has become increasingly important in all sectors of life, including education (Kanoksilapatham. 2022 : 346). On March 16, 2020, the Ministry of Education, Youth, and Sport (MoEYS) in Cambodia announced the closure of all educational institutions, including public and private schools (MoEYS. 2020 : 3). This decision, like many others around the world, was made to prevent the spread of COVID-19. To be able to respond to current and future changes and lead educational institutions through various problems and obstacles, the head of the institution requires essential leadership and management knowledge and skills or competencies in managing the various changes that affect educational institutions (Joungtrakul and et al. 2021 : 31). Cambodia was seeking for a larger foundation to restructure and recover from the COVID-19 crisis in an inclusive manner. The digital economy offered a feasible path to doing this, notably in Cambodia, where considerable legislative measures to encourage digital transformation are already underway (Banga and Velde. 2020 : 1).

COVID19 has severely hampered efforts to enhance Cambodia's education system since early 2020. However, the epidemic has provided a chance to not only deepen educational reforms, but also to increase the use of ICT and contemporary technology in education. The epidemic, in fact, serves as a catalyst for reforming and upgrading the educational system. As a result, all key stakeholders, notably the Ministry of Education, Youth, and Sport (MoEYS), must capitalize on the crisis and capitalize on the good momentum to continue Information and Communication Technology (ICT) adoption and integration in education (Heng. 2021 : 7). To illustrate, virtual meetings were employed in several online learning tools to replace face-to-face meetings that were formerly used for teaching and learning. The construction of online learning programs was mandated for all Cambodian schools to provide students with additional alternatives for studying and to aid in their skill development (Em. 2023 : 1). While the variety of digital platforms aided in filling learning gaps during the COVID-19 outbreak, Cambodia's digital divide remains a major

challenge. Nonetheless, digital schooling is not going away in Cambodia. While it gained traction during COVID-19, this is an important area of concentration for educational growth. It is also directly tied to Cambodia's goals for a digital economy and being a middle-income country by 2030. Digital learning is expanded into three areas: 1) Create digital infrastructure: To assist with this, the government has identified eight objectives in its current Education Strategic Plan. Among these initiatives are the adoption of new management and administrative processes to improve governance efficiency, transparency, effectiveness, the development of national and sub-national standards for infrastructure and network connections, and collaboration with private companies focused on digital technology, 2) Increase training capacity: In addition to instructors, the entire school administration must be better prepared and taught to function digitally, and 3) Adapt content and curriculum: Once administrative capability is established, One believes that the emphasis may shift to effectively adapting material for digital platforms. "Currently, the curriculum and instructional content are on 'paper,' and this must be converted to a digital format," he argues. (IIEP-UNESCO. 2020).

Overall, the COVID-19 outbreak has had a wide-ranging impact on how people live. One of the educational issues has been the move from onsite to remote learning, which requires educational institutions with online facility issues to do the same. Cambodia was looking for a larger foundation to help it reorganize and recover from the COVID-19 issue. The digital economy provided effective ways to do this, particularly in Cambodia, where considerable legislative measures to encourage digital transformation are already underway. In reality, the pandemic acts as a catalyst for altering and enhancing the educational system. As a result, all major stakeholders, particularly the Ministry of Education, Youth, and Sport, must capitalize on the crisis and the positive momentum in order to continue ICT adoption and integration in education. It is also strongly related to Cambodia's aims, which consist of three main areas: creating digital infrastructure, increasing training capacity, and adapting content and curriculum to enhance a digital economy and become a middle-income nation by 2030.

Importance of Administrators' Digital Competence in Cambodian Education

1. Before the COVID-19

Digital technologies were not frequently put into practice in Cambodian education before the COVID-19 due to a lack of training and supporting tools. The Information and Communication Technology (ICT) infrastructure environment of Cambodia education was underdeveloped, and internet connection was extremely sluggish, preventing students from accessing various resources. Smart gadgets were used more frequently by public workers and instructors. As a result, when designing educational content, it was important to attempt to create textbooks and lectures while keeping in mind that it is a practical course (Park. online. 2016).

Despite the fact that the survey found that the use of technology in Cambodia was still insufficient, the ministry of education has been working to reform and encourage its usage. The Ministry recommended promoting the use of Information and Communications Technology (ICT) in the teaching and learning process, research, and administration by forming a cyber campus consortium and connecting it to other virtual institutions across the world. This approach will also encourage the digitization of Khmer language books as well as the translation of foreign core literature into Khmer (Nguon. 2015 : 60). The use of Information and Communications Technology (ICT) in Cambodia's education system remains restricted, and the government must engage in digitalizing education, supporting Information and Communications Technology (ICT) research and development, increasing public-private partnerships, encouraging autonomous learning, and enabling the adoption of blended learning. The Cambodian Ministry of Education recommended the following proposal for Information and Communications Technology (ICT) use in education: 1) ICT Use in Schools: a) Encourage the use of ICT in secondary schools to improve the quality of teaching and learning, starting with science, foreign languages, social science, and math. b) When available, modify the secondary curriculum to include proposal for using ICT to teach science, foreign languages, social sciences, and math. The curriculum should also encourage the use of technologies such as VCDs, video and audiotapes, radio and television, c) Offer ICT as a life skill course where resources allow, and d) The use of ICT in schools should follow an ethical framework in order to respond to the four pillars of the national education system. 2) Knowledge Management System: a) Create an online National Clearing House for Khmer and foreign language teaching and learning resources; and b) Provide links to useful educational portals and websites, collections of

teaching and learning resources prepared by teachers and other professionals, and collections of freeware and shareware software for free download, all of which are available in Cambodia and on the internet worldwide (MoEYS. 2004 : 14).

Overall, digital technologies were not frequently put into practice before the pandemic due to a lack of training and supporting tools. The Information and Communication Technology (ICT) infrastructure environment of Cambodia education was underdeveloped, and internet connection was extremely sluggish, preventing students from accessing various resources. Despite the study finding that technology use in Cambodia is still minimal, the ministry of education has been attempting to reform and encourage its use. The Cambodian Ministry of Education, meanwhile, has put effort into promoting and recommending the use of ICT in education.

2. In the Next Normal Era

As a preventative action against the spread of COVID-19, the Royal Government of Cambodia (RGC) decided to close all education institutions, including public and private schools, on March 16, 2020. These school closures have disrupted learning in all of Cambodia's estimated 13,482 schools, from pre-school to upper secondary, affecting an estimated 3.2 million pupils (MoEYS. 2021 : 5).

Despite the massive interruptions, COVID-19 has presented a wonderful opportunity for extending the use of Information and Communications Technology (ICT) in education and furthering educational reforms (Heng. 2021 : 4). This transformation not only aided Information and Communications Technology (ICT) during the pandemic, but it also marked a significant shift in the New Normal Era. According to Ministry of Education, Youth and Sport (MoEYS) access to appropriate and dependable infrastructure, information technology, communication devices, and basic learning materials is required for both the demand for and supply of education service delivery, in order to fully participate in alternative distance learning initiatives and ensure continuous learning (MoEYS. 2021 : 8).

Every educational institution must guarantee that its Information and Communications Technology (ICT) infrastructure management is reliable and accessible in order to perform the best possible remote learning and teaching, and that their administrators, educators, and other stakeholders are capable of using digital technologies. During this moment of unexpected and unprecedented educational upheaval, UNESCO's Global Education Coalition works to support

inclusive learning opportunities for children and youth. Investment in remote learning should both reduce the immediate disruption created by COVID-19 and provide the groundwork for future education systems that are more open and adaptable (UNESCO,2020: 6).

Overall, despite the numerous disruptions, COVID-19 provided an excellent opportunity for expanding the use of Information and Communications Technology (ICT) in education and developing educational reforms. It not only aided Information and Communications Technology (ICT) during the pandemic but also marked a significant shift in the New Normal Era. To fully engage in alternative remote learning efforts and assure ongoing learning, information technology, communication devices, and fundamental learning materials are necessary for both the demand for and supply of education service delivery. Because accessing Information and Communications Technology (ICT) requires every educator and school administrator to have a certain skill, building administrators' digital competence is crucial to accessing Information and Communications Technology (ICT) use while it is a compulsory tool used to manage school administration as well as distance learning during the disruption and the Next Normal Era.

Administrators' Digital Competence in Education Overview

Administrators in Education Overview

Administrators must be the driving force and role models that initiate or promote change inside their institutions (Lindley. 2009 : 4). Administrators are those who plan the activities and arrange the administrative management process (Surya. 2011 : 91). Therefore, we must comprehend what the administration is. According to this researcher many individuals have interpreted the term "administration" to refer to management. In addition, they have also defined "administration" as a generalized type of human behavior found in an organization and a process by which decisions are made as well as the process of administering and directing life in any social organization, such as a school or various companies.

Having learnt the traits and duties of the administrators and the management process, knowing about the competence that leads to being good administrators is also crucial. Administrative skills are crucial for administrators at all levels and in all organizations because effective administration is reliant on fundamental administrative talents such as knowledge, conceptual skills, technique, teaching, and humanism. The administrator should have all five

administrative skills that are required in the twenty-first century, including technology and digital literacy abilities, learning innovation skills, communication and listening skills (Sonsaard and Darbavasu. 2019 : 528) Even though having technology skills is important in the 21st century, the same researchers have also indicated that leadership skills and knowledge of psychology are also required for organizational management in order to achieve organizational success, such as creating a work-oriented organizational culture, focusing on effective communication, the selection, development, and retention of qualified personnel.

According to the era of change and things that are always being updated, including the way people think, live, and work, administrators' jobs are more likely to be creative, critical, and visionary. The school administration of the twenty-first century must adapt its management methods and policies to meet the demands of the time. Because the world has advanced in all disciplines, it is no longer adequate for schools to maintain instructional programs using traditional tactics or methodologies. It is critical for the school's administration to establish school-independent routes via planning and goal-setting (Serhan. 2019 : 29). To get administrators to be well-prepared within their management goal, there should be a model for them to follow, as a previous research study revealed that the administrative innovation management model in educational institutions involves five elements:1) objectives, 2) principles, 3) administrative innovation input factors, 4) the administrative innovation process, and 5) innovative output (Sombunsin and Wannasri 2022 : 9).

Overall, administrators must be the motivators and role models who begin or support change inside their organizations and are in charge of directing, coordinating, and planning the administrative management process. Meanwhile, critical factors such as knowledge, conceptual skills, technique, teaching, and humanism are required to be good administrators. The administrator should possess all five administrative talents necessary in the twenty-first century, including technology and digital literacy abilities, learning and innovation skills, communication and listening abilities, and leadership abilities. Furthermore, corporate success requires leadership abilities and an understanding of psychology, as well as a focus on developing a work-oriented organizational culture. To meet the needs of the twenty-first century, school administration must change its management practices and policies.

Digital Competence in Education Overview

Digital competence is defined as the capacity to confidently utilize electronic media for work, entertainment, and communication, in addition to logical and critical thinking, managing information, and high-level communication skills (T Bashkireva and et al. 2020 : 4). Additionally, these researchers stated that in order to prepare schoolchildren for professional activity and support professional digital competence, the educational environment should take into account the age-related physiological, mental, and psychological traits of students.

Another study suggested that digital competence is an emerging concept that is linked to technological advancements as well as the political goals and expectations of individuals in a knowledge society. It is made up of a range of skills and competencies, and its scope is broad: literacy and information science, media and communication, technology and computing (Ilomäki and et al. 2011 : 8). They also stated that "digital competence" includes 1) technical skills for using digital technologies, 2) abilities to use digital technologies in a meaningful way for working, studying, and everyday life in general in various activities, 3) abilities to critically evaluate digital technologies, and 4) motivation to participate in the digital culture. Techataweewan and Prasertsin (2017 : 217) have also defined the term digital competence similarly, suggesting that it is a set of skills for using and being aware of digital information, technology, and media for finding, assessing, producing, and communicating as needed.

Because we live in a world of constant updating, things are changed virtually every day; therefore, digital skills are an ongoing study. As a result, we must continue to learn and improve. The first thing that comes to mind when thinking about overcoming digital skill inequalities is education or training of users to gain these abilities (Van Dijk and van Deursen.2014). The most natural approach to learn them is to doing and seeking supports from others in their social surroundings. However, they also argued that formal education and adult courses still remain necessary for learning appropriate digital skills, while younger generations most need formal education to learn and be aware of content-related information, communication, and strategic skills. Although there are ways for us to improve our digital competence, we also need to learn about some other factors that influence individuals to develop that certain skill. In order to enhance and exploit the full potential of the older population, it is necessary to employ complete and trustworthy information, background, and consciousness from gerontological domains, as well as the use of

instruments suited to meet the constraints of this group (Garcia and et al. 2021 : 198). Digital competence has become crucial for employability. To illustrate, Europe has created a conceptual framework of digital competence in order to research and improve the quality and relevance of training and other methods of acquiring skills, to make skills more visible and comparable, and to improve information and understanding of skills intelligence in order to help people make better career choices, find quality jobs, and improve their life chances. The European Commission established the Digital Competence Framework as shown in Figure 2 for Citizens, often known as DigComp, to assist the growth of digital competence among Europeans. It outlines what competencies are required to become digitally competence (Centeno and et al. 2019 : 3).

Overall, the confident use of electronic media necessary to earn knowledge and skills in personal and professional growth due to a high level of logical and critical thinking aimed at regulating the information and communication received is referred to as "digital competence." Digital competence is made up of a variety of skills and competences and has a broad scope: literacy and information science, communication and media, technology, and computing. To research and improve the quality and relevance of training and other methods of acquiring skills, to make skills more visible and comparable, and to improve information and understanding of skills intelligence in order to assist people in making better career choices, finding quality jobs, and improving their life chances, the European Commission established the Digital Competence Framework for Citizens, often known as DigComp, to help Europeans improve their digital competence.

European Digital Competence Framework in Education

The European Commission established the Digital Competence Framework for Citizens, commonly known as DigComp, to assist the growth of digital competence among Europeans.

It outlines what competencies are required to become digitally competent. The skills agenda consists of five areas, 1). Information and Data Literacy, 2). Communication and Collaboration, 3). Digital Creation, 4). Safety, and 5). Problem Solving. They were created for Europe with the goal of improving the quality and relevance of training and other methods of acquiring skills, making skills more visible and comparable, and improving information and understanding of skill intelligence to help people make better career choices, find quality jobs, and improve their life chances (Centeno and et al 2019 : 3).

The digital competence of pedagogical specialists is essential for the implementation of the new professional roles of the educator in response to the ever-increasing requirements for it in the context of a 21st-century school and in the context of the global digital transformation of the economy and education. By outlining the key abilities that ensure instructors have the entire range of practical experience (Tsankov and Damyanov. 2019 : 4). This researcher used European digital competence framework to investigate the structure of educators' digital competency by identifying the key abilities that ensure their complete practical experience. The empirical study shows a self-assessment of prospective pedagogical experts trained in the professional area of pedagogy, as well as highlights from their actual capabilities of handling certain practical tasks using information and communication technologies. Another research in Spain also adapted this European framework to conduct their study. Melilla, a Spanish autonomous city in northwest Africa, has one of Europe's worst rates of academic failure and desertion. Improving pupils' digital competency would be an excellent strategy to address this problem. To accomplish so, instructors must possess sufficient digital abilities as well as the ability to teach them. The Spanish adaption of the European Framework for Digital Competence of Educators was used to examine the self-assessment responses of teachers in training at the Faculty of Education and Sport Sciences in Melilla, Spain, to estimate teachers' level of digital competence. Several quantitative approaches were employed to assess data gathered from a questionnaire based on the framework's items (García and et al. 2023).

DigComp, the European digital competence framework, offers a complete and extensive framework for citizens; it has the capacity to be tailored to the demands of various target groups. Despite this, no contemporary research has focused on the need of having a unified framework for elementary and secondary education (Guitert and et al. 2020 : 1). As a result, this study adapted this framework to create a standard framework for elementary and secondary education that promotes the development and assessment of digital competence. The DigCompEdu framework is intended for educators at all educational levels, including general and vocational training, special needs education, and non-formal learning environments, from early childhood through higher and adult education. Its goal is to give member states, regional governments, pertinent national and regional agencies, educational institutions themselves, and public or private professional training

providers a generic reference framework for creating digital competency models (Redecker. 2017 : 9).

According to the researches mentioned above, the European Digital Competence Framework has played a critical role since it explains what competences are necessary to become digitally competent and is utilized to support the rise of digital competence. Furthermore, it was intended to improve the quality and relevance of training and other methods of skill acquisition by making skills more visible and comparable, as well as improving information and understanding of skill intelligence to assist people in making better career choices, finding quality jobs, and improving their life chances.

Digital Competence Transformation in Education

1. Before the COVID-19

Technology has transformed the way we study, interact, entertain ourselves, get information, and acquire knowledge in every facet of our daily life. These changes are and will continue to be visible at all levels of the educational system. This process is posing new issues for instructors' working techniques in pedagogical, didactic, and administrative contexts, as well as the development of students' digital building and specialized knowledge and fundamental abilities (Kelentric and et al. 2017 : 1).

According to a study conducted in Norway on how policy documents in the nation over the last ten years have interpreted ICT and digital competence in teacher education and in schools, There was a claim that general epistemological changes may be registered in the new school curriculum and the new General Plan for Teacher Education within the Norwegian educational system, Many of the same difficulties face higher education in general, since digital competency and new modes of teaching and evaluation must be established in order to capture “how teachers teach and learners learn” in the digital era, and Action Plans, White Papers, and the incorporation of concepts into curriculum may all be seen as having been impacted by the digital revolution. At the same time, it may be Aid that the policy documents help to set the stage for future discussions on what learning means in the twenty-first century (Krumsvik. 2011 : 48-49).

Calvani and et al (2010 : 161-162) stated that there is now enough agreement that a concept of digital competence must move the focus from a simply technical meaning to a more nuanced idea in order to be pedagogically useful. Such a notion should place a greater emphasis on

intellectual and critical elements, as well as the capacity to comprehend the underlying nature of technical phenomena and awareness of the ethical and social consequences of using online technologies. They indicated that the term “digital competence” consist of ; 1) Multidimensional: it entails the integration of cognitive, relational, and social talents and capabilities, making it a nonlinear concept, 2) Complex: it is not entirely measurable with single tests; Some components of this skill are hard to ascertain, at least in the near term, and may remain hidden, requiring more time and quite different situations to develop, 3) Interconnected: it is not distinct from other talents or fundamental competencies with which it overlaps (for instance, reading, problem solving, numeracy, logical, inferential, and metacognitive skills), and 4) Sensitive to the socio-cultural context: it would be unreasonable to imagine a single model of digital literacy that is appropriate at all times and in all circumstances; the meaning of this literacy will likewise alter depending on the varied educational environments (basic training, professional training, lifelong learning, specialized training).

Overall, technology has changed the way we study, socialize, enjoy ourselves, gather information, and learn in all aspects of our everyday lives. These changes may and will be seen at all levels of the educational system. This transformation raises new concerns for instructors' pedagogical, didactic, and administrative strategies, as well as the growth of students' digital building, specialized knowledge, and fundamental abilities. There is now widespread agreement that a concept of digital competence must shift from a purely technical definition to a more nuanced one in order to be pedagogically valuable. This theory has categorized digital competence into multidimensional, complex, and interconnected sensitive to the socio-cultural context.

2. In the COVID-19 and Its Implications for the Next Normal Era

In today's digital environment, the school must reinvent itself, which is made even more urgent by the Covid-19 epidemic. Training, internet connection infrastructure (hardware and software), digital competence, teaching, and learning tactics of students and academics are all critical (Sá and Serpa. 2020 Online). During the crises, technology enabled many of us to continue our everyday tasks as citizens and preserve a relational thread with the world and our social surroundings, although at a great emotional cost. The idea behind educational reform has tended to focus on the significance of acquiring knowledge, skills, and capacities to cope and prosper in the twenty-first century. However, the health crisis has brought to light not only the accomplishments,

but also the shortcomings and inconsistencies that have resulted from the reform, and it has made us aware of the need of actions to address these limits. Teleworking abilities, teacher design competency, and self-regulated learning skills of children, teens, and young people engaged in digital environments: all of these variables reveal a desire for deep, critical, and ongoing learning that will enable us to stay in control of our own lives (Gewerc and et al. 2020 : 374).

During the quarantine, the Ukrainian Ministry of Education and Science hosted a number of events to aid in the implementation of remote education at higher education institutions. Three online workshops for teachers have been held: "Using activity-based components in Moodle system distant learning and online communication". The topic was continued in the second online session with the following issues: 1. Moodle exams for knowledge control (Recourse Test). Creating, editing, and posting test tasks in the Moodle system. 2. Communication methods for remote learners using digital technology (interactive online boards, Google documents, a platform for conducting online classes). The final lecture is titled "BigBlueButton Service Tools for Conducting Online Classes" (the seminar is for those who are planning to use the software BigBlueButton in distance learning) (Trubavina and et al. 2022 : 4).

Since the global epidemic triggered by COVID-19, the globe has undergone tremendous changes, and all of society's systems have been affected in all countries. While educational changes take longer than changes in other individual contexts, the pandemic has demonstrated human beings' capacity for change and adaptability. This possibility became obvious following the rigorous lockdown edict imposed on people in Spain in the middle of March. Face-to-face educational institutions became virtual in less than 48 hours, resulting in changes for the educational community (Moreno and et al. online 2020 :13).

Overall, since the global epidemic triggered by COVID-19, the globe has undergone tremendous changes, and all of society's systems have been affected in all countries. Educational institutions must reinvent itself in today's digital world, which is rendered even more essential by the Covid-19 outbreak. Training, internet connection infrastructure, hardware and software, digital competence, and student and academic teaching and learning strategies are all crucial. The health crisis has highlighted not just the successes, but also the flaws and inconsistencies that have come from these policies, and it has made us aware of the need for action to address these limitations.

Kampong Chhnang Provincial Teacher Training Center Administration Management

Background and Former Training Formular Transformation

Kampong Chhnang Provincial Teacher Training Center (PTTC) is situated a long national road 5 in Kampong Chhnang province, about 89 kilometers from Phnom Penh, the capital of Cambodia. Kampong Chhnang province is bordered by Kampong Thom province to the north, Kampong Cham province to the east, Kampong Speu province to the south, and Pursat province to the west. It covers an area of 5521 square kilometers and has a total population of about 538,945 people (Cho and Nagoya (2018 : 1). Kampong Chhnang has the same hot and humid climate as other provinces throughout Cambodia. Rainy season is from May to October (temperatures of 27–35 °C, 90% humidity), winter is from November to March (temperatures ranging from 18 to 28 °C), and summer is from March to May (temperatures ranging from 28 to 36 °C). Geographical conditions have made this province accessible for a living, particularly with transportation and for receiving a formal education. This convenience led the Cambodian government to decide to establish a teacher training center in this region for the purpose of training teachers for primary schools (Luk and et al. 2022 : 30).

Kampong Chhnang Provincial Teacher Training Center (PTTC) started operating on April 16, 1981, and is known as a primary school teacher training center. The campus is situated in the Preah Bat Suramarit High School quarter in Sre Pring Village, Angkat Kampong Chhnang, and Kampong Chhnang City, about 2 kilometers south of the Kampong Chhnang Independence Monument. As shown in Figure 2, its location is surrounded by community resources, including a hospital, market, school, pagodas, and public transportation services, which makes the center accessible to the community (PTTC. 2019).

Figure 2 Kampong Chhnang Provincial Teacher Training Center Captured by Google Map Camera (PTTC. 2019).

Kampong Chhnang Provincial Teacher Training Center (PTTC) first started with 1 administrative building that consists of 2 floors with 9 classrooms and a meeting room, 1 student dormitory building, 1 bathroom building, and 1 kitchen (PTTC Record). Following its operating process when it first started, there were 28 staff members in total, including 2 leaders, 13 teacher trainers, 11 kitchen staff, and 2 security guards. The following table, shown in Table 1, is the list of staff members when Kampong Chhnang Provincial Teacher Training Center (PTTC) first began its operation in 1981 (Luk and et al. 2022 : 32).

Table 1 List of staff members in Kampong Chhnang Provincial Teacher Training Center (PTCC) first operated in May 16, 1981 (Luk and et al. 2022 : 32).

No	Position	Number	Total
1	Leaders	2	26
2	Teacher Trainers	13	
3	Kitchen Staffs	9	
4	Security Guards	2	

Kampong Chhnang Provincial Teacher Training Center (PTTC)'s first training course focused on administrative policy and technical training for psycho-pedagogy, followed by training formulas 7+1 and 8+1. These training formulas were used until 1989. A total of 3,657 teacher trainees participated and were trained. The center transformed its training formular again during 1990–1993 from 7+1 and 8+1 to 8+2. The training course during those years focused on building primary school teachers and adding up the skills of those who participated in the 8+1 training formula course. A total of 842 teacher trainees participated and were trained. Following the new reform in 1993, Kampong Chhnang Teacher Training Center (PTTC) transformed the training formula from 8+2 to 11+2, and it was used until 1998. A total of 264 teacher trainees participated and were trained. The following Table 2 shows the former training formular transformation as well as the number of teacher trainees who participated in those years.

Table 2 Former Training Formular Transformation (PTTC. 2020)

Year	Number of Trainees	Training Formular	Training Course
1981-1989	3657	7+1 and 8+1	Administrative Policy and Technical Training for Psycho-Pedagogy
1990-1993	842	8+2	Primary School Teachers and adding up the skills of those who participated in the 8+1 training formular course
1993-1998	264	11+2	Primary School Teachers

Current Infrastructure and Training Formular

Kampong Chhnang Provincial Teacher Training Center (PTTC) now has another new building that consists of three floors with 15 rooms, a football field, and a valley ball court, which is a generous gift from Samdech Hun Sen, Prime Minister of the Kingdom of Cambodia (MoEYS). The purpose of building this is to help the center be more efficient in terms of administrative management, learning, and teaching processes. In the meantime, the existing old building in the center has also been repaired and renovated to add extra rooms and spaces. The repair process was under the direction of the Ministry of Education, Youth, and Sports (MoEYS) through the GPE project. Currently, Kampong Chhnang Provincial Teacher Training Center (PTTC) has a football field, volleyball court, study building, a generous gift from Samdech Hun Sen, Prime Minister of the Kingdom of Cambodia, an ADB building with five rooms, the main office, and a student dormitory building (PTTC. 2023).

Nowadays, Kampong Chhnang Provincial Teacher Training Center (PTTC) has 27 employees: 17 teachers with a higher education degree, 9 teachers with a basic education degree, and 1 teacher with a primary school teacher degree. The following Table 3, is the number of the employees who are currently working in Kampong Chhnang Provincial Teacher Training Center (PTTC) (PTTC. 2023).

Table 3 Number of employees who are currently working in Kampong Chhnang Provincial Teacher Training Center (PTTC) (PTTC. 2023).

N^{o}	Role	Number	Total
1	Leaders	3	27
2	Administrators	3	
3	Academic Staffs	5	
4	Teacher	16	

Following its strategy reform, Kampong Chhnang Provincial Teacher Training Center (PTTC) has transformed its training formula again from 11+2 to 12+2 starting in 1998 and continuing to the present. A total of 2152 teacher trainees participated and were trained. However, during the COVID-19 crisis, no trainee was selected for the academic year 2020–2022. The

following Table 4 shows the number of teacher trainees who participated in the training course from 1998-2021 (PTTC. 2021).

Table 4 Number of teacher trainees participated in training course in Kampong Chhnang Provincial Teacher Training Center (PTCC) from 1998-2021 (PTTC. 2021).

Year	Number of Trainees		Batch
	Total	Female	
1998-2000	126	33	17
1999-2001	140	45	18
2000-2002	140	45	19
2001-2003	100	31	20
2002-2004	95	29	21
2003-2005	120	48	22
2004-2006	61	22	23
2005-2007	120	60	24
2006-2008	100	49	25
2007-2009	90	38	26
2008-2010	87	47	27
2009-2011	77	47	28
2010-2012	80	52	29
2011-2013	80	43	30
2012-2014	180	100	31
2013-2015	100	73	32
2014-2016	180	100	33
2015-2017	66	39	34
2016-2018	62	33	35
2017-2019	55	35	36
2018-2020	48	35	37
2019-2021	45	31	38
2020-2022	No trainees selected due to COVID-19 crisis		

Goals and Strategy Focusing on Improvement and Digital in Education

Kampong Chhnang Provincial Teacher Training Center (PTTC) has set its vision to prepare the primary school teacher trainees to reach the level where they fully unlock their potential and are able to use their skills ethically, and highly recognized by the community. The center's missions are to:

- Provide knowledge to the teacher trainees and shape them to be effective teachers
- Provide further training to the existing teacher trainers who are currently working in the center to upgrade their level.

In order to reach the vision and missions set, Kampong Chhnang Provincial Teacher Training Center (PTTC) has three main strategies: develop teacher training centers; develop professional skills for teacher trainers and teacher trainees; and strengthen the monitoring system to assess existing and new teacher trainers' working performance (Luk and et al. 2022 : 50). Kampong Chhnang Provincial Teacher Training Center (PTTC) has encouraged and sent its administrators and teacher trainers to participate in various professional development, including digital in education training program such as MOOCs and Digital Development for Digital Economy (PTTC. 2023).

Related Documents and Research Regarding Administrators' Digital Competence

Llomaki and Lakkala (2018) conducted a research study and developed a model that explains the significant aspects of enhancing schools using digital technology, helps in revealing variations across schools, and highlights their best practices and issues. The study revealed that educational administrators at the local and national levels may be interested in assessing the state of using digital technology in schools. These researchers suggested that when aiming for improvements, local and national school administrations focus on schools as knowledge work organizations, such as increasing the quality of pedagogical and knowledge practices in schools using digital technology. All aspects of the innovative digital school model should be considered, and the first step should be to commit the staff to change by developing shared visions and goals for pedagogical development through digital technology and by supporting school-level practices that include both students and teachers.

Apsorn and et al (online.2019) studied the components and do confirmatory factor analysis, and study the perceptions of ICT leadership of administrators in Thailand. The study indicated eight components: 1) developing a vision and administrative plans for the use of ICT in schools, 2) establishing strategies for promoting teachers' and students' use of technology in instruction; 3) developing plans for improving teachers' and supporting staff's technological skills; managing, supporting and facilitating an atmosphere conductive to the use of ICT and providing information technology (IT) resources; 4) ; learning about meeting ICT related challenges with prudence and care; 5) acting as a role model in applying ICT to daily personal and professional matters; 6) sharing knowledge, 7) opening up opportunities and creating an ICT culture in schools in order to develop a learning community, and 8) overseeing and doing follow-up on data storage and data updates for the benefit of decision making and problem solving for using to develop guidelines for efficiently and effectively improving the capacity of ICT school administrators.

Soeung and Chim (2022) studied the impact of COVID-19 on teaching online at an upper secondary school. The study did not only discover the needs for online teaching but also found significant practical consequences for central-level people and policymakers. They stated that schools in Cambodia still lack technology-readiness programs as well as restricted digital infrastructure and instruments. In this regard, they proposed that, for school resumption, a digital working environment be fostered at the school level for both teachers and school administration staff. COVID-19, on the other hand, was considered to offer a great deal to educational institutions in terms of implementing the digital revolution of education 4.0.

Asio and Bayucca (online.2021) studied and analyzed the level of digital competence of school administrators, the readiness of schools, and perceived challenges on the delivery of distance learning. The study used the statistical tool to analyzed the data: frequency, percentage, and rank. This study discovered that administrators had various results with remote learning the institution was not yet ready to establish a distance learning plan.

Oznacar and Dericioglu (online.2017) studied the thoughts of state high administrators to determine the obstacles that they are exposed to while using technology and attempting to integrate technology in their schools. It was discovered that administrators are not concerned about the usage of technology at school, but they fail to incorporate technology into the classroom.

Yuliani and et al (online.2023) studied school management system assistance with technology awareness at SMP Negeri 13 Dumai. The implementation of this school management system help program intends to give instructors at SMP Negeri 13 Dumai assistance in using the school's technology. The result showed that there was an increase in technological awareness capabilities at the management level, which may be assessed by three primary aspects, namely: (1) increasing their knowledge about awareness in the field of sensitivity (perceptual component) where managerial staff in SMP Negeri 13 Dumai is able to identify and implement existing technology in the field of education (2) second component, insight (interpretation component) where insight, the ability of managerial staff in this school to understand the reasons for mastering renewable technology for efficiency and effectiveness in the school management system and (3) the third component is communication.

Rina and Sugiarto (online.2022) studied the skills of electronic archives (e-archive) in managing school administration through the network (cloud). The activity findings show that education personnel can manage school administration papers electronically via the network (cloud). Education personnel can categorize different archives as active or inactive, and their maintenance is focused on electronic materials via scanning or scanning for digital archive management.

Ellis and et al (online.2021) conducted a study to look into North Carolina school administrators' perceptions of digital learning competencies for administrators to establish digital-age learning organizations and identify best practices to assist educators and students. Data were gathered in the 2018–2019 academic year via a web-based questionnaire given to current and previous Educational Leadership Program students (n = 21/52) and six semi structured interviews. The findings provided evidence for the development of a new digital learning credential for educational leaders.

Luecha and et al (online.2022) conducted a study of program development of digital leadership for school administrators. The research aimed to investigate the components and indicators of digital leadership in school administrators, as well as the current state of desirable conditions and necessities for digital leadership in school administrators. It also aimed to develop a digital leadership development program for administrators and to investigate the effect of using a digital leadership development program in school administrators. The findings revealed that 1)

school administrators' digital leadership consisted of seven components and 22 indicators, 2) Desirable Conditions for School Administrators' Digital Leadership, 3) Program development for digital leadership for administrators is feasible and valuable in general, it was at the highest level, and 4) Program outcomes, 4.1) Development of digital leadership programs for school administrators.

Suksai and et al (2021) conducted study research about a digital leadership development model for administrators in basic education to fulfil the Thailand 4.0 policy. The research aimed to explore the components of Digital Leadership and develop a Digital Leadership model. The study found that the component of Digital Leadership consists of 1) Vision Leadership, 2) Use of Digital Technology in teaching, 30 Use of Digital Technology in management, 4) Digital Technology support and management in education, 5) Use of Digital Technology in measurement and evaluation, and 6) Ethics in the use of Digital Technology. The digital leadership model consists of (1) context, followed by its three main points: (1.1) policy as a guideline for implementation (1.2) principle as a guideline for development (1.3) the objective of indicating changing behaviors, and (2) guidelines for digital technology development, followed by its four main points: (2.1) input consists of administrative structure, technology, and organizational culture (2.2) digital technology development processes such as the design thinking process (2.3) Digital leadership productivity and cognition (2.4) Feedback, both direct and indirect, was useful Information for the digital technology development model that was suitable, feasible, useful, and consistent with the research framework.

Balakrishnan (online.2023) did a study looking into administrative support and convenience factors affecting the usage of ICT in teaching and learning management. The study was carried out using a qualitative approach. The findings revealed that administrators promote and enable the degree of ICT usage in teaching and learning management, which is critical and contributes to teachers successfully using ICT in the direction of teaching and learning.

CHAPTER 3

RESEARCH METHODOLOGY

To archive the research objectives, the researcher used a qualitative method to conduct the study and adjusted a dialectic of the research spiral from a guide for the teacher researcher (Mills. 2018 : 25–27) and the action plan development of a private vocational school using a balanced scorecard approach with soar analysis (ChansongAeng. 2018 : 120), which consists of 5 steps: 1. Identifying an area of focus, 2. Collect data, 3. Analyze and interpret data, 4. A Guideline for Developing Administrators' Digital Competence (ADC), and 5. Offering a Guideline for this research study. Figure 3 below indicates the dialectic of the research spiral.

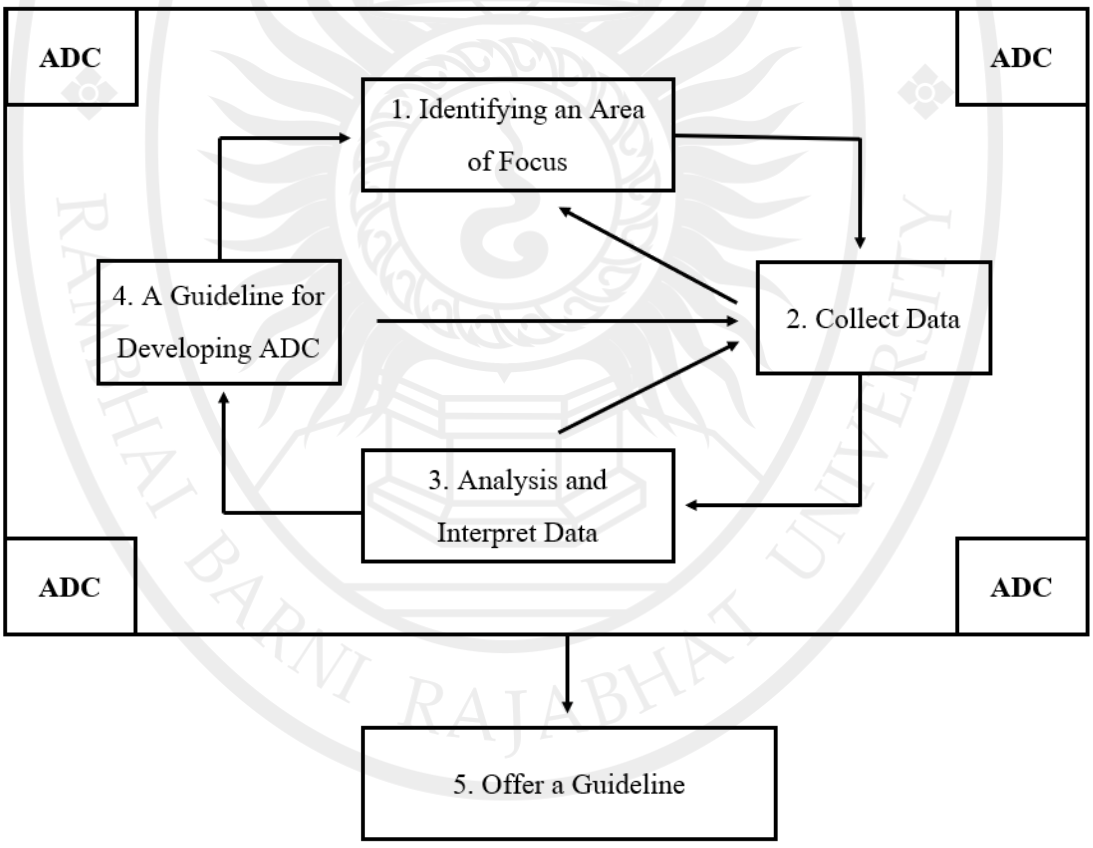

Figure 3 The Dialectic of the Research Spiral adjusted from Chansongsaeng (2018 : 120) and Mills (2018 : 25–27).

1. Identify an Area of Focus
2. Collect Data

3. Analyze and Interpret Data
4. A Guideline for Developing ADC (Administrators' Digital Competence)
5. Offer a Guideline

Identify an Area of Focus

Population Determination

The scope of the research was to study administrators' digital competence in the Next Normal Era in a teacher training center, not as a whole educational systematic intervention. The study was conducted at Kampong Chhnang Provincial Teacher Training Center (PTTC), Cambodia, and its purpose was to study, analyze, and offer a guideline for administrators' digital competence in the Next Normal Era. The population of the study consists of administrators, teacher trainers, and teacher trainees who are currently working and studying at the training center.

Key Informants

The key informants were selected by using judgmental sampling, also known as the purposive method. This method is one such skill that needs to be applied and used so as to be effective for a qualitative research study (Tongco. 2007 : 155). It occurs when a researcher adds instances or people to sample because the researcher believes such participants are significant enough to include (Taherdoost. 2016 : 23). The key informants were chosen based on the researcher's assessment of who can provide the best information for the research study's objectives. As a result, the researcher selected administrators, with at least five years of experience and currently working at Kampong Chhnang Provincial Teacher Training Center (PTTC), technical supervisors, who are also currently employed there, and the teacher trainees, whose roles as course and class presidents from the second years and who are enrolled in a computer course at the training facility, as the key informants. So, in total, there were 15 key informants selected: 7 administrators, 4 technical supervisors, and 4 teacher trainees.

Study and Analyze Previous Researches

1. ICT Use in Kampong Chhnang Teacher Training Center (PTTC)

According to the previous study, before the COVID-19 disruption era, there was a dearth of Information and Communication Technology (ICT) organization development. UNESCO noted difficulties with the project, such as a lack of Khmer language resources, inadequate English

proficiency of the trainers and trainees, inadequate infrastructure, a lack of hardware, and a lack of action by the Ministry of Education, Youth and Sport (MoEYS) to put the current Information and Communication Technology (ICT) in education policy into practice (Richardson. 2008 : 72).

Consequently, the educational institution administrators in Cambodia, including those in Kampong Chhnang Provincial Teacher Training Center (PTTC) lack digital competence and were unprepared to adjust to the COVID-19 crisis. To illustrate, the whole institute just shut down on March 16, 2020, according to the announcement from Ministry of Education, Youth and Sport (MoEYS), and all the trainees were sent home and did not get to have proper training during the pandemic (MoEYS. 2020 : 3). The social media platforms used for accessing the documents and communicating were Telegram, Messenger, and Facebook. During the crisis, the Ministry of Education, Youth and Sport (MoEYS) also put efforts into developing other platforms, such as Google Meet and Zoom, and encouraged all the administrators, educators, and trainers to use them.

However, the performance was still low due to a lack of training, digital tools, and internet access. In Kampong Chhnang Provincial Teacher Training Center (PTTC), administrative management is still carried out using conventional methods with little support from Information and Communication Technology (ICT) facilities.

2. Administrators' Digital Competence

Administrators must be the driving force and role models that initiate or promote change inside their institutions (Lindley. 2009 : 4). Administrators are those who plan the activities and arrange the administrative management process (Surya. 2011). Therefore, we must comprehend what the administration is. According to this researcher many individuals have interpreted the term "administration" to refer to management. In addition, they have also defined "administration" as a generalized type of human behavior found in an organization and a process by which decisions are made as well as the process of administering and directing life in any social organization, such as a school or various companies. While digital competence is defined as the capacity to confidently utilize electronic media for work, entertainment, and communication, in addition to logical and critical thinking, managing information, and high-level communication skills (T Bashkireva and et al. 2020 : 4). Another study suggested that digital competence is an emerging concept that is linked to technological advancements as well as the political goals and expectations of individuals in a knowledge society. It is made up of a range of skills and competencies, and its scope is broad:

literacy and information science, media and communication, technology and computing (Ilomäki and et al. 2011 : 8). They also stated that "digital competence" includes 1) technical skills for using digital technologies, 2) abilities to use digital technologies in a meaningful way for working, studying, and everyday life in general in various activities, 3) abilities to critically evaluate digital technologies, and 4) motivation to participate in the digital culture. Techataweewan and Prasertsin (2017 : 217) has also defined the term digital competence similarly, suggesting that it is a set of skills for using and being aware of digital information, technology, and media for finding, assessing, producing, and communicating as needed. In light of the studies above, it can be concluded that the term “administrators' digital competence” refers to leaders or groups of individuals who arrange the management process and can utilize electronic media to gain high-level and crucial abilities.

The European Commission established the Digital Competence Framework for Citizens, commonly known as DigComp, to assist the growth of digital competence among Europeans. It outlines what competencies are required to become digitally competent. The skills agenda consists of five areas, 1) Information and Data Literacy, 2) Communication and Collaboration, 3) Digital Creation, 4) Safety, and 5) Problem Solving. They were created for Europe with the goal of improving the quality and relevance of training and other methods of acquiring skills, making skills more visible and comparable, and improving information and understanding of skill intelligence to help people make better career choices, find quality jobs, and improve their life chances (Centeno and et al. 2019 : 3).

The digital competence of pedagogical specialists is essential for the implementation of the new professional roles of the educator in response to the ever-increasing requirements for it in the context of a 21st-century school and in the context of the global digital transformation of the economy and education. By outlining the key abilities that ensure instructors have the entire range of practical experience (Tsankov and Damyanov. 2019 : 4). This researcher used European digital competence framework to investigate the structure of educators' digital competency by identifying the key abilities that ensure their complete practical experience. The empirical study shows a self-assessment of prospective pedagogical experts trained in the professional area of pedagogy, as well as highlights from their actual capabilities of handling certain practical tasks using information and communication technologies. Another research in Spain also adapted this European framework to

conduct their study. Melilla, a Spanish autonomous city in northwest Africa, has one of Europe's worst rates of academic failure and desertion. Improving pupils' digital competency would be an excellent strategy to address this problem. To accomplish so, instructors must possess sufficient digital abilities as well as the ability to teach them. The Spanish adaption of the European Framework for Digital Competence of Educators was used to examine the self-assessment responses of teachers in training at the Faculty of Education and Sport Sciences in Melilla, Spain, to estimate teachers' level of digital competence. Several quantitative approaches were employed to assess data gathered from a questionnaire based on the framework's items García and et al (online.2023).

DigComp, the European digital competence framework, offers a complete and extensive framework for citizens; it has the capacity to be tailored to the demands of various target groups. Despite this, no contemporary research has focused on the need of having a unified framework for elementary and secondary education (Guitert and et al. 2020 : 1). As a result, this study adapted this framework to create a standard framework for elementary and secondary education that promotes the development and assessment of digital competence. The DigCompEdu framework is intended for educators at all educational levels, including general and vocational training, special needs education, and non-formal learning environments, from early childhood through higher and adult education. Its goal is to give member states, regional governments, pertinent national and regional agencies, educational institutions themselves, and public or private professional training providers a generic reference framework for creating digital competency models (Redecker. 2017).

Creating Research Tool

The research study used in-depth interviews and focus groups to collect the information. The current researcher develops a qualitative question interview from a quantitative research study in Melilla, Spain, in which they adapted the Common Digital Competence Framework for Teachers (CDCFT) in their study research (García and et al. 2021). The CDCFT is the Spanish version adapted from the EU's European Framework for the Digital Competence of Educators (DigCompEdu) (Redecker. 2017). This framework was designed and used for quantitative research. However, due to the limitations of the research population, the current researcher adapted these questionaries for a qualitative design. The adapted interview questions were reviewed by 5 experts,

a co-advisor, and an advisor, and were then approved by the advisor. The interview questions were designed and consist of five main areas:

1. Information and Data Literacy
2. Communication and Collaboration
3. Digital Content Creation
4. Safety
5. Problem Solving

The researcher created and determined the quality of the research instruments as the followings:

1. Information and Data Literacy: There were two questions used to explore the following areas: browsing, evaluating, and crediting the data and information.
2. Communication and Collaboration: There was one question used to explore the following areas: interacting and collaborating through digital technology.
3. Digital Content Creation: There were two questions used to explore the following areas; developing digital content, copyright and licenses.
4. Safety: There were two questions used to explore the following areas: protecting devices and protecting personal data and privacy.
5. Problem Solving: There were two questions used to explore the following areas: solving technical problems and identifying needs to improve digital competence.

A reliable interview methodology is essential for obtaining high-quality interview data. Creating a proper interview procedure, on the other hand, is not an easy undertaking, especially for new researchers (Yeong and et a.l 2018). The qualitative research interview is a significant data-collection method that allows educators to investigate undiscovered areas of education and practice further development (Cormac McGrath and et al. online.2018). The interview remains the primary mode of knowledge across varied subfields, albeit it is increasingly supplemented or augmented by other means such as diaries and autobiography (Dowling and et al. online.2015).

Collect Data

Research Tool Checked by Advisors

After developing a research tool, the researcher submitted it to an advisor and co-advisor for assessment and verification. Both the advisor and co-advisor checked the validity, spelling, and grammar structures and provided feedback and recommendations. The researcher then adjusted the research tool in accordance with the advisor's and co-researcher's comments and recommendations.

Research Tool Checked by Five Experts

The advisor suggested the researcher find five experts who at least hold a Master's or PhD in the related field of the research study and ask them to help review and check for the validity, spelling, and grammar structures and provide feedback and comments. The five experts are required to have the following qualifications:

1. An expert whose field is digital or information and communication technology (ICT)
2. An expert whose field is educational administration
3. A teacher trainer from a teacher training center
4. An administrator whose experience is at least 5 years and who is currently working in an educational institution
5. An expert whose field is in English and who is able to give feedback in both English and Khmer

After finding the five experts and having them agree to help review the research tools and provide feedback, the researcher then adjusts the research tool in accordance with the experts' comments and recommendations.

Edit Research Tool

The researcher adjusted the research tool according to the advisor, co-advisor, and all five experts' feedback and recommendations. The researcher was then given permission to continue processing once the adviser and co-advisor gave their final review and approval.

Conducting Interview

1. In-Depth Interview

The interview was conducted individually using semi-structured questions. The researcher made sure the participants felt at ease during the interview for the research study, and their answers were kept confidential. Note-taking and voice-recording using a notebook and

smartphone recorder are used in this process. The key informants selected for the in-depth interview are the heads of administrators, as listed in the following:

1. Director of the Kampong Chhnang Provincial Teacher Training Center (PTTC).
2. Head of Academic Department of the Kampong Chhnang Provincial Techer Training Center (PTTC).
3. Head of Administration Department Kampong Chhnang Provincial Teacher Training Center (PTTC).

2. Focus Group

The interview was conducted in a small group, which consisted of four people.

The interview used semi-structured questions. People who had similar experiences and backgrounds were placed in the same group. The researcher made sure the participants felt at ease during the interview for the research study, and their answers were kept confidential. Note-taking and voice-recording using a notebook and smartphone recorder were used in this process. The key informants selected for the focus group were:

1. Administrators of Kampong Chhnang Provincial Teacher Training Center (PTTC) whose experience at least five years and currently working in the center.
2. Technical Supervisors in Kampong Chhnang Teacher Training Center (PTTC) and currently working in the center.
3. Second year course and class presidents who enrolled in a computer course in Kampong Chhnang Teacher Training Center (PTTC) and currently studying in the center.

3. Ethical Assurance

By being aware of and using recognized ethical concepts, particularly autonomy, beneficence, and justice, one might lessen the challenges that come with qualitative research. While the concept of justice relates to fairness and equitable sharing, beneficence is the act of providing good for others and averting harm. Avoiding the exploitation and abuse of participants is a vital and distinguishing aspect of this approach (Orb and et al. 2001 : 95). In any research project, it is crucial to protect human subjects by putting the right ethical standards into practice. Due to the extensive length of the research process, ethical questions have a special resonance in qualitative studies.

The balance between the possible hazards of research and its expected rewards must be maintained at all phases of qualitative investigation, and ethical considerations are vital (Arifin 2018)

In order to perform this study ethically, the researcher made sure that the outcomes did not have an impact on any participants or the school. The information was gathered, examined, and tailored to the participants. Participants were required to sign a permission form and affirm that they were willing to provide the necessary details. The participants were free to withhold any responses that they found offensive or unpleasant. All information submitted was reportedly kept private. The board of the faculty of education gave their approval to the study. After receiving the permission letter from the faculty of education, the data collection process was conducted. After transcribing, all personally identifiable information was promptly removed.

The researcher's laptop was used to Ave the interview transcripts with codes and numbers. Only the researcher and the advisor and co-advisor were allowed access to the data throughout the whole process. The permission letter made it clear that participation was optional, that participants may leave the research at any time, and that they were not required to answer any questions that made them feel uncomfortable. Additionally, the participants had the option to suggest convenient times and days for their interviews.

Analyze and Interpret Data

Since qualitative data are text-based, non-numerical, and unstructured, coding is an important stage in the analytical process that helps to arrange and make sense of the textual data. In the context of data reduction, condensation, distillation, grouping, and classification, researchers have discussed about coding. Coding enables communication and connection between the researcher and the data, which helps the researcher understand newly emergent phenomena and develop theory based on the data (Tehmina Basit. 2003 : 152).

Researchers can anticipate doing analytical tasks repeatedly; the necessity of this iteration is a well-known finding. However, it is not explicitly stated how researchers use repetition to further their theories. Understanding the coding activities in relation to the coding moments that relate to how researchers employ the coding actions as their study progresses is helpful. There are

many distinct ways to code, and the same coding operations are applied to many contexts. For instance, engaging data and utilizing existing literature are two typical and acknowledged things programmers accomplish (Locke and et al. 2020).

Since the interview was conducted in Khmer, the researcher first transcribed it in Khmer, then translated it into English. After that, the researcher asked three experts to check the translation. Following the conclusion of the interviews, the open coding process started. In order to facilitate and organize the coding process, the researcher classified interview items that helped the study objectives align before grouping participant groups together. The researcher printed the transcripts and collected notes, papers, and other resources. The researcher then marked the source, any demographics that were gathered, and any other information that could help in data analysis.

Then the researcher reviewed and reread the transcripts, noting words, phrases, and sentences that represented notions or meanings that were similar and assigning them a different color.

A Guideline for Developing ADC (Administrators' Digital Competence)

A guideline for developing ADC (Administrators' Digital Competence) that covers five main focusing areas such Information and Data Literacy, Communication and Collaboration, Digital Content Creation, Safety, and Problem Solving aims to tackle the problem of administrators' digital competence at the Kampong Chhnang Provincial Teacher Training Center (PTTC) and provide critical success factors for strengthening their abilities in managing school administration tasks with digital technologies more efficiently and confidently with modernization to meet 21st century skill needs.

Offer a Guideline

Advisors Check a Guideline

After analyzing the data and drawing the research findings and conclusions, the researcher submitted the work to the advisor and co-advisor for them to check and review its validity and accuracy. Both the advisor and the co-adviser double-checked to ensure that the work was done accurately and ethically. The researcher then adjusted the research work in response to the advisor's and co-advisor's feedbacks and recommendations.

Thesis Defense

Researcher prepared a presentation for the thesis defense according to the date set. The thesis defense was conducted on the campus of the faculty of education at Rambhai Barni Rajabhat University, and four committees were in attendance. Researcher was given 60 minutes to present and defend the work. After the presentation, researcher was asked about their work, and researcher was required to be able to answer all the questions from the four committees. Once researcher could respond to all the questions asked, the work was approved and it was suggested that some parts have further editing.

CHAPTER 4

FINDINGS OF DATA ANALYSIS

The research study "A Guideline for Developing Administrators' Digital Competence in the Next Normal Era at Kampong Chhnang Provincial Teacher Training Center, Cambodia", the researcher presents the finding of the data analysis as the following.

Findings

1. General Information of the Participants

The data collection was conducted with the administrators, consisting of the director, first vice director, second vice director, technical supervisors, and teacher trainees. Table 5 below shows the general information of the participants according to their responses.

Table 5 General Information of the Participants

Participant	Abbreviation	Position	Year of Experience
Director	D	Director	36
First Vice Director	FVD	First Vice Director	29
Second Vice Director	SVD	Second Vice Director	29
Administrator 1	A1	Librarian	7
Administrator 2	A2	Administrator Staff	34
Administrator 3	A3	Secretary	17
Administrator 4	A4	Warehouse Guard	6
Technical Supervisor 1	TS1	Computer Teacher Trainer	4
Technical Supervisor 2	TS2	Khmer Literature Teacher Trainer	13
Technical Supervisor 3	TS3	Math Teacher Trainer	30
Technical Supervisor 4	TS4	History- Geography Teacher Trainer	11
Teacher Trainee 1	TT1	Course President	2
Teacher Trainee 2	TT2	First Vice President	2
Teacher Trainee 3	TT3	Class A President	2
Teacher Trainee 4	TT4	Class B President	2
* Administrator = **A;** Technical Supervisor = **TS;** Teacher Trainee = **TT**			

D stands for director. It has been discovered that D has spent 36 years working at the teacher training center. FVD stands for first vice director, while SVD stands for second vice director. FVD and SVD were found to have the same amount of experience 29 years. A stand for administrator, while A1, 2, 3, and 4 stand for administrators 1, 2, 3, and 4. The four A have been put in charge of different duties: administrator, secretary, librarian, and warehouse guard responsibilities. They have been found to have had different years of experience, with the lowest being 6 years and the highest being 34 years. TS stands for technical supervisor, while TS1, 2, 3, and 4 stand for technical supervisor 1, 2, 3, and 4. The four TS are teacher trainers whose majors are computer, Khmer literature, math, and history and geography. They have been found to have had different years of experience, with the lowest being 4 years and the highest being 30 years.

TT stands for teacher trainee, while TT1, 2, 3, and 4 stand for teacher trainees 1, 2, 3, and 4. The four TT have been put in charge of different duties: course president, first vice course president, and class presidents. They were chosen from among the second-year teacher trainees.

2. Administrators' Digital Competence

The digital performance of administrators at Kampong Chhnang Provincial Teacher Training Center consists of five key areas: Information and Data Literacy, Communication and Collaboration, Digital Content Creation, Safety, and Problem Solving. Their performance in each area is detailed as follows:

Information and Data Literacy

Administrators were able to access and receive basic information through digital tools such as smartphones and social media apps. They regularly used Telegram and Messenger to receive updates, reports, and school-related information. However, they lacked skills in organizing and managing information digitally (e.g., using file storage, document classification, or search techniques), and they rarely evaluated the credibility of digital sources.

D usually uses websites to access information for educational purposes in the digital era. However, he added that the traditional way is still used in managing the staff, as all the officials' digital competence is still limited. He said:

"…D: For searching and managing administrative tasks, we search via websites. In managing the staff, we also use the traditional way because all the officials have not much sharpened themselves as they think they are already old…"

FVD and SVD, on the other hand, use Telegram to access the information. FVD focuses more on Telegram groups, as there are three main groups that he usually checks: the Telegram group of the provincial department, the Telegram group of the training department, and the Telegram group of the pedagogical center, while beside Telegram, SVD uses other tools, such as Facebook, Google, and Zoom, using the Internet as the main access to search for information for educational purposes in the digital era. They said:

"…FVD: We commonly use a Telegram group that belongs to our institution. Another one is the telegram group of the provincial department, and one more thing we check is the telegram group of the training department…"

"…SVD: We use Telegram. Another thing is Facebook. Beside this, we use the internet, like Google and Zoom…"

When asked what A uses to access information for their educational purposes in the digital era, A1 mentioned several platforms, such as Telegram, YouTube, and Google. While Google Meet and Zoom are more preferable for meetings. A2, A3, and A4 similarly agree with what A1 said, as it was mentioned the following:

"…A1: We use Telegram. If there is an urgent meeting, we use Meet and Zoom. There are also YouTube and Google as options to look for information…"

Enthought A3 agrees with what everyone above Aid; he did, however, mention that the internet is the primary instrument for such platforms to use. He indicates that the internet is mandatory; therefore, without it, those platforms cannot be processed. He said:

"…A3: For me, it is not very different from the two teachers above. We communicate and search for resources over the internet. If there is no internet, we will not be able to access Google or other services…"

According to TS, it showed that the internet and YouTube are tools that their administrators use to look for information for their educational purposes in the digital era, and the computer is the device for accessing it. TS2 and TS3 had similar opinions as TS1 and TS4. As it was mentioned:

"…TS1: In my opinion, the tool used in the digital era now is mainly the internet…"

"…TS4: They use the internet. They also have computers and use YouTube to help with their administration tasks…"

TT, on the other hand, raised several accesses, such as Telegram, Messenger, Google, YouTube, and Chrome. TT4, and TT1, similarly raised the same opinion as TT3 and TT2 as it was stated:

"…TT3: In my opinion, administrators here communicate via Telegram and search for documents via Google or Chrome…"

"…TT2: They search for documents via Google or YouTube…"

In order to ensure that the information is safe, accurate, and reliable, D noted that he must rely on the website as a trusted source. He believes people do not fake information on a website. He said:

"…D: Knowing that the information is reliable and official is because the information is posted on the websites. If we think people lie, they do not …"

FDV, on the other hand, would first focus on the location that has a clear address. Then the institution's name, logo, and account in particular need to be recognized by the ministry and issued with a license. While SVD highlighted the details of the information, emphasizing the clear sources and content. They said:

"…FVD: The information needs to have accurate sources that can confirm a clear location with an address, the institution's name, logo, and account, and be recognized by the ministry with a legal license and seal from the president of the institution …"

"…SVD: Firstly, that information is accurate; the account needs to have accurate sources. One more thing is clear and accurate content …"

In terms of ensuring that the information they find on the internet is accurate, Afe, and reliable, all four A appear to have a variety of opinions. A1 focuses on the websites that are licensed with a clear policy, as he said:

"…A1: Websites that have a clear policy and, particularly, what we call a license with a seal and clear date …"

A2, additionally, indicates the copyright and the publisher's information. He stated:

"…A2: We need to search for, for example, where this book was written and whose copyright it belongs to …"

Following that, A3 stresses letters with the seal issued by the relevant ministry or department. Such letters are critical for him to ensure the reliability of the information. Likewise, A4 also agrees with what A3 stated He stated the following:

"…A3: First we have the letter. When having two or three letters, it is kept as a fundamental thought and trust. And the official one is released from the relevant ministry or department. It is issued in writing with a seal …"

When asking TS what the administrators use to ensure the reliability of the information they find on the internet, TS4 observes that the administrators take the page name, the detail of the information, and the accurate location into account. TS2, TS1, and TS3 also agree with what TS4 stated. They did, however, highlighted several additional areas: accurate source, real account, evidences, references, following is what they said:

"…TS4: Our administrators check the page name or other information on the page that has an accurate location and information …"

"…TS3: They need to have enough evidence, such as references …"

"…TS2: It needs to be accurate. It needs to be a real account..."

Observed by TT on how the administrators ensure the reliability of information on the internet, TT1 cited the information uploaded by the ministry as what helps them accept the information. Similarly, TT2 stated the uploaded page, adding that comparing the material posted on it is also something they take into account, and TS4 noticed that administrators put more trust in the websites and pages of the Ministry of Education, Youth, and Sport and Kru Cambodia. Without hesitation, TT3 also agreed with what TS4 raised. They Aid the following:

"…TT1: Our administrators know that the documents are reliable, depending on how the ministry drops the information from an accurate source ..."

"…TT2: First of all, they look at the page posted. They mainly focus on the reliable pages; for example, the Ministry of Education's page is 90% trustworthy ..."

"…TT4: They depends on the page. There are two main websites: the Ministry of Education, Youth, and Sport's website and Kru Cambodia. One more thing: for Facebook, they also check two pages: the Ministry of Education, Youth, and Sport's page and Kru Cambodia ..."

There are six associated domains discovered in the Information and Data Literacy area. They are assessing tools, digital tools, information platform groups, information reliability, reliable websites and pages, and staff management. Table 6 below shows the finding with its explanation in this area.

Table 6 The Finding of the Information and Data Literacy area

	Accessing Tools	Digital Tool	Information Platform Groups	Information Reliability	Reliable Websites and Pages	Staff Management
Information and Data Literacy	- Websites - Telegram group - Facebook - Internet - Google - Zoom - Google Meet - YouTube - Chrome	- Computer	- Institution's Telegram Group - Provincial Department Telegram Group - Training Department Telegram Group	- Information is posted on the websites - Accurate Sources - Clear Location with an Address - Institution's Name, Logo - Account Recognized by the Ministry with a Legal License - Seal from the President of the Institution - Trusted Content	- Ministry of Education, Youth, and Sport's website - Kru Cambodia website - Ministry of Education, Youth, and Sport's page - Kru Cambodia page	- Traditional Way

Administrators obtain information using computers as the device and social media and online platforms such websites, Telegram groups, Facebook, the Internet, Google, Zoom, Google Meet, YouTube, and Chrome as the information sources. They, however, focus mainly on the three important Telegram groups: their own institution's Telegram group, the provincial department Telegram group, and the training department Telegram group, which they believe is the source of reliable information. They can ensure the information is real based on various evidence, such as information posted on the websites, which includes accurate sources, authors' names, a clear location with an address, the' institution's name and logo, an account recognized by the ministry with a legal license, and a seal from the president of the institution.

Communication and Collaboration

This was the most developed competence among administrators. They actively used Telegram, Messenger, and Facebook for internal communication, announcements, and coordination. These tools were used on a daily basis, enabling smoother collaboration with staff and students. However, their use of collaborative platforms like Google Drive, Google Docs, or Microsoft Teams was very limited or assisted by others. Most digital communication remained informal and tool-specific.

Telegram, Messenger, and Google Meet, according to the D and SVD are platforms for sharing information in terms of communication and collaboration at Kampong Chhnang Provincial Teacher Training Center. FVD, A, TS, and TT raised the same opinion as what D and SVD said, as it was mentioned:

"…D: We share information via Telegram. Google Meet is also used for sharing because, during COVID19, we had meetings from home ..."

"…SVD: We share information via Telegram. And one more thing: we share via Messenger ..."

SVD and FVD indicated that Telegram is the primary group for sharing information; likewise, A and TS have the same point of view, as stated as follows:

"…SVD: We share documents via Telegram as a first option…"

"…FVD: I forward the information to the main group, the Telegram group ..."

Telegram is popular in the center because it is easy to use and can store a large amount of information based on A, TS, and TT, as they raised the same opinion as the following:

"…TS1: Almost every institution uses Telegram, as it is easy for them to use it ..."

"…TT2: It is easy to store files and the files are clear ..."

"…TT1: It is safe to send documents via Telegram ..."

Messenger and Google Meet are found to be secondary platforms for sharing information, according to D, SVD, and TS4, and A2 had the same opinion as it was said:

"…SVD: Once sharing via Telegram is not enough, we use Messenger as another option…"
"…D: Google Meet is also used for sharing the information…"

There are four associated domains discovered in the Communication and Collaboration area. They are information sharing platforms, primary planform, secondary platform, and primary platform essentiality. Table 7 below shows the finding with its explanation in this area.

Table 7 The Finding of Communication and Collaboration area

	Information Sharing Platforms	Primary Platform	Main Platform Essentiality	Secondary Platform
Communication and Collaboration	- Telegram - Messenger - Google Meet	- Telegram	- Easy to use - Hold a large number of documents - Easy to store files and the files are clear - Easy to send files - Safe to send documents	- Messenger - Google Meet

Administrators use conferencing platforms like Google Meet and social media like Telegram and Messenger as information sharing platforms. Among all the platforms, Telegram is found to be the primary one, Messenger is used as an alternative notification, and Google Meet was used during COVID-19. Telegram is more popular because it is easy to use and can hold a large number of documents safely and clearly.

Digital Content Creation

Most administrators lacked the ability to create digital content independently. They depended on technical staff, student class presidents, or younger colleagues to help with document formatting, PowerPoint slides, and form creation. Only a few had attended short digital training courses, and even those gained limited hands-on experience. This limited content creation capacity hindered their ability to support or lead digital initiatives.

D uses technology to find information and search for documents based on ministry and government policies, and laptops are the tools to access it. He said:

"…D: The documents we search through technology are based on ministry and government policy. We consider what is important for educational policy, and then we can start to implement it. The tools we use are laptops ..."

When extracting information or ideas from other people's documents through digital technologies for the purpose of creating educational content, he would mark the source in brackets or made it bold to indicate the work was extracted. He said:

"…D: When I extract the content for the work, I note it in brackets or make it bold to indicate that we take it from other people's work for our institution ..."

FVD focused on slide presentation when creating digital content regarding school development, and he also particularly encourages teacher trainers and teacher trainees to do research and implement their work by using digital tools; for example, they use slides in teaching and learning. Therefore, according to him, the center needs to ensure the WIFI's safety and sustainability. SVD, meanwhile, indicated the same strategy to presentation as FVD, as stated:

"…FVD: To develop our institution by using digital, I make it a good habit for administrators and personnel to do more research through digital tools. For teaching and learning, we need to use slide LEDs ..."

When asked how they credited the sources they adapted, FVD would provide references to the sources from which he obtained them. While SVD has the same opinion but adds more regarding confirming the author's name. They said:

"…FVD: When extracting the information, we need to put the reference, like which page we took it from ..."

"…SVD: We indicated the documents from which we got the source. And if it is a masterpiece, we know the name of the author ..."

When it comes to creating an education plan for school development through the use of digital tools, A rely on the internet as their primary source of information. For example, A2 raised

the idea of using one of the schools as a model for their development plan, so they can simply enter the name and a variety of information will appear, while A4 mentions the internet as the tool to search for information. And A1 and A3 completely agree with what they have said. It was stated as follows:

"…A2: We take a good school as a model. So, we just type the name of the school, for example, Wat Bo School, and we see their school environment ..."

"…A4: This one we searched for on the internet ..."

A1 and A2 agreed that screenshotting the source of the information and attaching it to the work is how to credit the sources they adapted when extracting information or ideas from other people's documents using digital technologies for the purpose of creating educational content. Whereas A4 believes the logo of the documents or information is sufficient to show the audience where he takes the source from. A3, on the other hand, indicated that he utilizes the reference that includes the page number and author's name to validate that the information is extracted. They said:

"…A1: It is just like Wat Bo school: if we want to follow their national anthem practice, we screenshot that picture, then we put the reference below it: Wat Bo School ..."

"…A3: When we read any text, we Aw author listed numbers 1, 2, and they put them under the text, indicating which book they extracted it from, for example, Miss Krang Ngea's documents. It is a reference, so we can check the page they listed ..."

"…A4: We just type "Kampong Chhnang pedagogy school", so we have the school logo to confirm ..."

In order to develop a development plan for school development through the use of digital, the school administrators, according to TS1, TS2, TS3, and TS4 primarily use the internet. They added that YouTube, Google Meet, Zoom, and slide presentations are the platforms to share educational contents, and electronic devices are used to access them, as TS1 stated:

"…TS1: The internet is used for searching for new plans. During COVID 19, we could not go anywhere, so I noticed that there were workshops or meetings held using digital tools such as Zoom or Meet …"

When extracting information or ideas from other people's documents through digital technologies for the purpose of creating educational content, TS1 responded that their school administrator would tell the audience where they took the information from, indicating the source of the information. TS2, TS3, and TS4 agree with what TS1 raised. However, TS3 did also mention that the specific location is also what administrators used to confirm the documents are the content they are quoting. Here is what they said:

"…TS1: They told us, and they cannot just tell us that they have done it by themselves …"

"…TS3: They indicated the sources, the institution, and the specific locations …"

When asked TT how their school administrator development plan for school development through the use of digital, they indicated slide presentations and Telegram is used to share documents, as TT2 said:

"…TT2: They prepare slides to show the plan they want to implement …"

When questioned how their administrators crediting the sources they adapted, TT1, TT2, TT3, and TT4 responded that their administrators would inform audiences about the sources they used, which is similar to ST's opinions above. However, TT4 also mentioned that they would place the references on the back of any publications they compiled.

"…TT4: They would tell which book or page they extracted the idea from. If they made it into a book, they would note the source at the back of the book …"

There are four associated domains discovered in the Digital Content Creation area.

They are content creation approaches, crediting sources, working attitude, and documents search based. Table 8 below shows the finding with its explanation in this area.

Table 8 The Finding of Digital Content Creation area

	Content Creation Approaches	Crediting Sources	Documents Searching Based	Working Attitude
Digital Content Creation	- Searching documents through technologies. - Using slide LEDs for presenting the work. - Using technology devices. - Using internet for searching new plans. - Using Zoom and Google Meet for meeting (during Covid-19). - Using YouTube and different applications, for example, Google, to find what they need.	- Put the sources in bracket or make it bold. - Put pages - Put references - Put authors' name - List number in bracket - Confirm with the logo - Tell the source of documents	- Based on ministry and government policy.	- Make it a good habit for both teacher trainers and trainees to study and do more research via digital tool. - Ensure safety and sustainability of Wi-Fi at school - Ensure that there are electronic systems in the working place.

Administrators use the internet as a source of information, and digital devices are supporting tools for them to create educational content. To illustrate, they present their work by using slides, PowerPoint, and LEDs. While YouTube and a variety of web-based tools like Google search for the data they need for the school development plan, Despite the ease with which information can now be accessed in the digital age, administrator are aware of the implications of using the information they have and what makes it a reliable source. Therefore, when it comes to giving credit to sources, administrator affirm by putting the source in brackets or making it bold, including references, putting the author's name, listing page numbers, confirming with the documents' logo, and indicating the documents' sources.

Safety

Digital safety was the least understood area. Administrators were unfamiliar with data privacy practices, secure passwords, or device protection strategies. Many used shared devices or did not update software regularly. There was no mention of institutional digital safety policy or

guidelines, and most respondents lacked confidence in managing risks associated with digital technology.

According to D, it is important to protect personal privacy because it can prevent people from hacking accounts and scamming others. He said:

"…D: If someone can hack it, they can take our account and name to scam others …"

FVD, SVD, A, TS, and TT meanwhile, focus on document safety and protect people from freely opening their digital devices, as mentioned:

"…FVD: How it important? No one can open it …"

"…SVD: It is important because it can keep our documents safe and cannot be shared …"

"…A4: We need to keep our documents by ourselves to keep them safe …"

"…TS2: Because we cannot know and trust some people. Sometimes, we have important documents to keep as personal data …"

"…TT2: In my opinion they want to keep the documents safe..."

When asked how they could protect their digital devices, D and SVD focused on setting the password, while FVD, A, TS, and TT separated the protection approaches into two parts: software and hardware. As for security, they mostly suggested setting passwords, which is not different from D and SVD, installing anti-protection software, and clearing viruses very often. While talking about hardware, they mentioned keeping the devices in a clean and safe place with a good temperature, cleaning the dust from the devices, and beware of using them when it rains, as they Aid lighting can cause damage to their digital tools. Particularly, they also stressed the technique of using the devices. They said:

"…D: We need to set up passwords. And the passwords should not be set up by our date of birth or any code number, like an order number …"

"…FVD: We need to clean the dust on the keyboard, mouse, or monitor and ensure that it is kept in a room with a good temperature …"

"…A3: Should not allow anyone to plug in the USB. When they plugged in the USB and copied documents, it spread viruses and caused my desktop error …"

"…TS1: First of all, they focus on electric power. After finishing the work, they need to turn off the power or the distributor button at school carefully to avoid the risk of power off …"

"…TT4: For hardware, they keep it in the lap room to protect it from rain or being wet. For software, they set up a password to protect their digital devices ..."

There are five associated domains discovered in the safety area. They are the importance of privacy protection, digital device protection approaches, causes of digital device damage, skill contribution, and the importance of skill contribution. Table 9 below shows the finding with its examination in this area.

Table 9 The Finding of Safety area

	Importance of Privacy Protection	Digital Devices Protection Approaches	Causes of Digital Devices Damage	Skill Contribution	Importance of Skill Contribution	Staff Management
Safety	- Prevent it from various risks. - Prevent it from being hacked. - Prevent it from being opened freely. - To keep the documents safe. - To keep the information safe.	- Set password - Install anti-virus protection - Clear viruses often - Shut down the devices correctly. - Beware of using the plug. - Cleaning dust from the devices. - Keep devices in a safe and clean with good. temperature place - Turn off the devices when it is not used.	- Viruses - Power cut	- Contribute new experiences and skills.	- To avoid from different risks.	- Traditional Way

Administrators need to keep their privacy safe because they want to prevent their personal data from being hacked, prevent their digital devices from opening freely, and keep documents and information safe. They, however, require a solid foundation of abilities due to technological advancement. In order to protect their devices, administrators use different approaches, such as setting passwords, installing anti-virus protection, clearing viruses often, shutting the devices correctly, beware of using plugs, cleaning dust from the devices, keeping the devices in a safe and clean place with a good temperature, and turning off the devices when they

are not in use. Meanwhile, they mention viruses that propagate over the internet and USB, as well as frequent power outages in their region, as the causes of the damage to the digital devices. When asked what may help them deal with all the hazards, they mostly focus on developing new abilities so they can share their experiences and knowledge with one another.

Problem Solving

Problem-solving related to digital tools was very weak. Administrators struggled to address even basic technical issues and often relied on younger staff or external technical support. There was no evidence of self-directed learning or proactive digital exploration. The fear of making mistakes was a common theme, which created barriers to digital independence and growth.

When encountering technical difficulties with digital technologies, D, FVD, and SVD sought an ICT expert to help them out. SVD, however, also asks and shares the problem with the colleagues and exchanges experiences so they can support each other, as it was mentioned:

"…SVD: I asked an ICT expert to help me. Another thing we asked each other for helps. We exchanged our experiences if we face a problem, like how we can deal with it …"

When encountering technical difficulties with digital technologies, A has a variety of options for getting help. A2 believes that the ICT teacher is a key person to help him out, while A4, on the other hand, looks for help and buys repair parts from outside when the school is unable to assist. Interestingly, A3's first solution is to deal with the problem himself. Then seeking assistance from a computer teacher, which is similar to A2's perspective. Not very different from A3 and A4, A1, however, added another choice, indicating that teacher trainees are also people she can seek help from when facing the issue. They said:

"…A2: In our school, both the director and second director, when they face problems with technology, never hesitate to seek assistance from an IT teacher …"

"…A4: Finding assistance outside of school is one alternative. When there is a choice at school, we ask for support from the school …"

"…A3: I have to help myself. If I cannot do it, I seek help from people around me, particularly a computer teacher …"

"…A1: For me, first of all, I help myself. Then I would seek help from the teacher trainees. If they cannot do it, I will seek help from an IT teacher. If the IT teacher cannot help, the last option is to find a repairer …"

When asked, TS responded with the same answers, as their choice is to look for support from an ICT teacher and find the repairer, as one of them stated:

"…TS4: They first seek help from a teacher who has the ICT skills at our school, as it is close and accessible. If it is more serious, they can bring it to the repairer …"

According to TT's response, their administrators would first solve the problem by themselves, using YouTube, Google information, and a handbook to assist with the technical issue they faced. Then they would find their colleagues or ICT teacher to support them if they could not deal with it themselves, as it was stated:

"…TT4: They would first solve the issue by themselves. They searched on YouTube to solve the issue. If they could not solve it, they would ask for help from their colleagues or whoever was accessible to them. If they still could not help, they would seek an ICT teacher to help them …"

"…TT2: They solved the issue themselves. They searched Google, YouTube, or other handbooks. One more thing: they found experts at school to help …"

For identifying needs that can help with the technical responses, D stated that they need to have sufficient digital tools, for example, laptops, and further training regarding technology to support their work. FVD, meanwhile, suggested having more training course, which is the same to what D stated. SVD similarly raised past training programs, which indicate that the personnel have now adapted to using digital technologies. They said:

"…D: We need to find digital tools for them to use, for example, laptops. They need to be trained and provided skills so that they can use it in school …"

"…SVD: In the past, there were training courses for teacher trainers at the center. The ICT trainers would come in person and conduct the training for one, two, or three days, depending on their course content …"

According to A and TS, practicing using technologies, having internet access, attending courses, and having enough digital tools are the identifying needs that can help with their technical response. As it was mentioned:

"…A2: To enforce our competence, we have to practice. And if we cannot do it, we can seek help from people around us..."

"…TS4: We need to have sufficient tools such as computers, printing machines, the internet, electricity, and photocopiers. Another necessary need is having training courses so administrators can be more proficient …"

When asked, TT had the same opinion regarding having internet access, attending courses, having enough digital tool, and practicing. They however, added extra factors such as doing more researches, ensuring electricity, and providing personnel guidebooks for the technical response. They stated:

"…TT2: They did more research. And sometimes the school assigns them to attend a course related to digital technologies …"

"…TT4: They need to use the internet. Then there should be manuals and experts that direct them through the technical aspects. Further, electricity is also necessary for their digital devices to work. Last but not least, they can request from their department that experts open short courses to reinforce their digital competence …"

There are four associated domains discovered in the Problem-Solving area. They are the technical issue solving, digital competence enhancement factors, digital competence adaptation factors, and digital competence enhance purposes. Table 10 below shows the finding in this area.

Table 10 The Finding of Problem-Solving area

	Technical Issue Solving	Digital Competence Enhancement Factors	Digital Competence Adaption Factors	Digital Competence Enhancement Purpose
Problem Solving	- Seek supports from an ICT teacher. - Self-support - Search Google and YouTube - Find ICT Experts - Seek support from teacher trainees - Seek repairers	- Having sufficient digital devices. - Training courses - Providing supporting guidebooks. - Practicing using technologies. - Having internet access - Doing research - Ensuring electricity	- Personnel were assigned to attend training courses. - Habit of using digital technologies at work. - The needs of digital technologies at work - Research	- To make administrative tasks easier by using technology.

Administrators used their own initiative when faced with technological difficulties. Instead of abandoning their task, they would seek further assistance to address the problem at hand. To illustrate, they would seek support from an ICT teacher, support themselves, search Google and YouTube, find ICT experts, seek support from teacher trainees, and seek repairers. The factors that improve their digital competence are: having sufficient digital devices; attending further training courses; providing supporting guidebooks; practicing using technologies; having internet access; doing further research; and ensuring electricity at work. Regarding the digital competence adaptation factor, there are four main areas: All the personnel at the center were assigned to attend training courses; school leaders make it a good habit for all the personnel and teacher trainees to use digital technologies at work; there is a need for using digital technology at work; and last but not least, all the personnel and teacher trainees always do more research regarding digital technologies. The purpose of enhancing their digital competence is because they need to make administrative tasks easier by using technology.

To conclude, the administrators had a positive attitude toward developing digital competence, as reflected in their regular use of tools such as smartphones, Telegram, Facebook, and Messenger for communication and coordination. Despite this positive outlook, it was found that the actual competence in these areas was limited, particularly in areas involving advanced tools, content creation, secure digital practices, and independent problem-solving and that improvement was necessary in order for them to use digital technology more efficiently and proactively.

Consequently, developing a clear guideline for enhancing administrators' digital competences is crucial.

3. Procedure of Developing a Guideline

The procedure of a guideline aims to illustrate the process of developing a guideline for administrators' digital competence. Figure 4 below indicates the steps, and its' explanation is presented as the following:

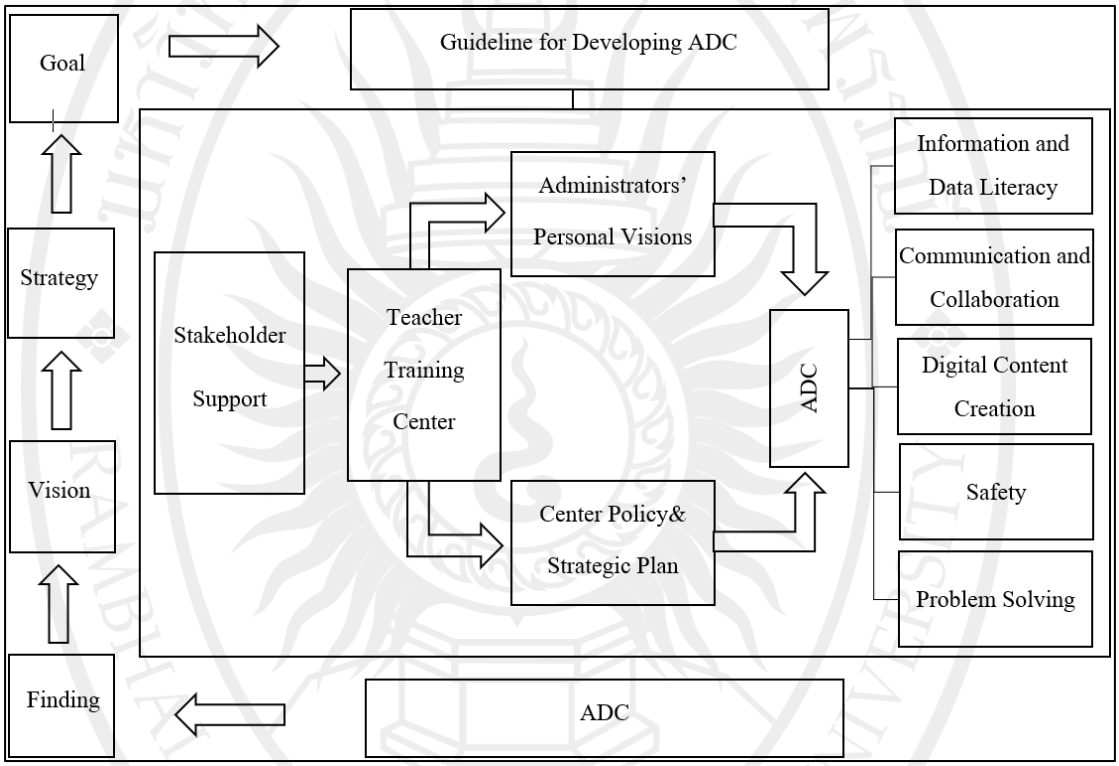

Figure 4 Procedure of Developing a Guideline

Areas of Focus ADC

Areas of focus refer to administrators' digital competence (ADC), and they consist of five main focusing areas. The definitions of each are given below.

1. Information and Data Literacy: is defined as the ability to manage digital information and data by identifying, locating, filtering, retrieving, storing, organizing, analyzing, and managing it while determining its applicability.

2. Communication and Collaboration: is defined as the ability to communicate in digital spaces, exchange resources using online tools, connect with others and work together using digital technologies, engage in community and network interaction.

3. Digital Creation: is defined as the ability to produce creative works and media products, repurpose and modify digital content, and deal with and put into practice intellectual property rights and licensing.

4. Safety: is defined as the ability to measure security, make it safe and sustainable to use, protect data, personal safety, and digital identity.

5. Problem Solving: is defined as the ability to identify digital requirements and resources, address conceptual difficulties using digital methods, apply technology creatively, update one's own and other people's competencies, and solve technical challenges.

Findings

Based on the findings, the digital performance of administrators at Kampong Chhnang Provincial Teacher Training Center consists of five key areas: Information and Data Literacy, Communication and Collaboration, Digital Content Creation, Safety, and Problem Solving. Furthermore, the administrators had a positive attitude toward developing digital competence, as reflected in their regular use of tools such as smartphones, Telegram, Facebook, and Messenger for communication and coordination. Despite this positive outlook, it was found that the actual competence in these areas was limited, particularly in areas involving advanced tools, content creation, secure digital practices, and independent problem-solving and that improvement was necessary in order for them to use digital technology more efficiently and proactively. To support this improvement, a guideline for developing the administrators' digital competences in the "next normal" era at the Kampong Chhnang Provincial Teacher Training Center, Cambodia, has been developed and introduced.

Vision

The vision is to sharpen administrators' digital competence to the level that they can proceed with their work by using digital technology confidently and effectively in the digital and next normal eras.

Strategy

To promote using digital technology in the teacher training center, it is necessary to include the following strategies:

- Provide guiding material and assistance
- Provide training courses

- Ensue of having digital devices
- Ensure of having internet access
- Ensure of having electricity
- Provide emotional support

Goal

The goal is to develop administrators' digital competence regarding five main areas of focus: information and data literacy, communication and collaboration, digital content creation, safety, and problem solving.

A Guideline

The objective of the guideline is to develop administrators' digital competence regarding five main areas of focus: information and data literacy, communication and collaboration, digital content creation, safety, and problem solving to the level that they can proceed with their school administration work by using digital technology confidently and effectively in the digital and next normal eras. To reach the objective, these strategies providing guiding material and assistance, providing training courses, ensuring digital devices, ensuring internet access, ensuring electricity, and providing emotional support need to be put into practice. The vital success of these strategies is followed by the guideline for developing administrators' digital competence, which consists of three primary factors: 1) stakeholder support; 2) teacher training center policy and strategic plan; and 3) administrators' personal vision.

1. Stakeholder Support

It is essential to start with the stakeholders, particularly those relevant ministries and departments that can empower the teacher training center. They need to provide supports, guidance and resources regarding the use of ICT, such as

- Guiding material and assistance: ensure that the teacher training center has guiding material and assistance support at any time they need it, especially when facing technical issues in terms of using digital technologies at work. The material includes technical manuals, instructions, and other relevant documents, while assistance includes those whose specialists are in ICT and computer science.
- Training courses: Ensure that administrators at the teacher training center have

opportunities to attend various trainings regarding digital technologies so they can sharpen their skills further for the benefit of their profession.

- Digital devices: Ensure that the teacher training center has enough electronic equipment, such as laptops, computers, printers, LED projectors, and other gadgets, to assist administrative management.

- Internet access: Ensure that there is adequate internet connectivity at the teacher training center so that administrators and other personnel can easily communicate, retrieve information, and distribute documents and announcements.

- Electricity: Ensure that the teacher training center has enough power to support all of the digital technology instruments used in the center.

- Provide emotional support: encourage administrators to have further self-study and sharpen their mindset toward using digital technologies for the benefit of advancing their profession and enhancing school administration management.

The guidance and resources are to support and encourage all the administrators, as well as other personnel, to have further engagement for the benefit of advancing their profession and enhancing school administration management.

2. Teacher Training Center Policy and Strategic Plan

The center therefore has to be responsive and make an attempt to include ICT use within the center by setting up policy and strategy planning. It is suggested the following:

- Establish a share vision: In order to advocate using digital technology at school, the center has to develop a plan that includes a common vision for administrators to engage themselves in using digital technologies. So, they realize what they are led to and are more inspired to engage themselves with using digital technology.

- Send administrators to attend the training courses: The administrators need to be sharpened further regarding their digital competence; therefore, additional training is necessary. The center needs to send them to any training courses organized by relevant stakeholders and require them to report the knowledge they gain after completing the program. This would be beneficial to track their progress in learning and developing their skills.

- Instill in administrators the habit of utilizing technology: The center needs to promote

using digital technologies at work. The administrative tasks should be implemented by using digital technologies more frequently as a means of training and getting used to using them on a daily basis.

- Ensure enough technical support : The center must ensure that administrators have enough guidance when they encounter technical issues while utilizing technology at work. The center can provide hand-on-hand support and any relevant manual material to assist them, so they can manage their work instead of getting stuck and abandoning it.

- Provide emotional support: Motivation and encouragement from the leaders are also necessary, as it is a great inspiration for administrators to learn and keep themselves updated with technological advancements.

3. Administrators' Personal Vision.

In the meantime, administrators need to build a personal vision to embrace digital technologies in the workplace and be proactive. Their personal vision should include the following:

- Continue to keep up with the latest technological advances: To stay up to speed with recent advances in technology, administrators must be attentive as well as knowledgeable about these changes.

- Develop themselves by doing extensive research: The administrators need to sharpen their skills further by searching more on the internet and other online platforms such as YouTube and Google and gathering any general knowledge posted on social media such as Facebook, TikTok, Telegram, or any other platforms that are popular and easy for them to access.

- Put effort into practicing: In addition to whatever new knowledge, they pick up on digital technology, the administrators need to reflect on and implement the principles they learned during the training. Practicing is the key to advancing the skill. So, the administrators need to practice more and remember that practice makes perfect.

- Willing to learn new things: It is necessary to be willing. The administrators must cultivate an openness to learning. They must be eager to acquire knowledge with enthusiasm.

CHAPTER 5

CONCLUSION DISCUSSION AND RECOMMENDATIONS

The research study "A Guideline for Developing Administrators' Digital Competence in the Next Normal Era at Kampong Chhnang Provincial Teacher Training Center, Cambodia", the researcher presents the conclusion, discussion, and recommendations as the following.

Conclusion

The research study objectives were: 1) To study administrators' digital competence in the Next Normal Era in Kampong Chhnang Provincial Teacher Training Center (PTTC), 2) To analyze administrators' digital competence in the Next Normal Era in Kampong Chhnang Provincial Teacher Training Center (PTTC), and 3) To offer a guideline for developing administrators' digital competence in the Next Normal Era in Kampong Chhnang Provincial Teacher Training Center (PTTC). To archive the research objectives, the researcher used a qualitative method to conduct the study and adjusted a dialectic of the research spiral from a guide for the teacher researcher (Mills. 2018 : 25–27) and the action plan development of a private vocational school using a balanced scorecard approach with soar analysis (ChansongAeng. 2018 : 120), which consists of 5 steps: 1. Identifying an area of focus 2. Collect data; 3. Analyze and interpret data; 4. A Guideline for Developing Administrators' Digital Competence (ADC), and 5. Offering a Guideline for this research study. In-depth interviews and focus groups were used in data collection.

The concentration population was to study administrators' digital competence in the Next Normal Era in a teacher training center, not as a whole educational systematic intervention. The study was conducted at Kampong Chhnang Provincial Teacher Training Center (PTTC), Cambodia. The population of the study consisted of administrators, technical supervisors, and teacher trainees who are currently working and studying at the training center. The key informants were selected by using judgmental sampling, also known as the purposive method. This method is one such skill that needs to be applied and used so as to be effective for a qualitative research study (Tongco. 2007 : 155). It occurs when a researcher adds instances or people to a sample because the researcher believes such participants are significant enough to include (Taherdoost. 2016 : 23). The key informants were chosen based on the researcher's assessment of who could provide the best

information for the research study's objectives. As a result, the researcher selected administrators, with at least five years of experience and currently working at Kampong Chhnang Provincial Teacher Training Center (PTTC), technical supervisors, who are also currently employed there, and teacher trainees, whose roles as course and class presidents began in the second year and enrolled in a computer course at the training facility, as the key informants. So, in total, there were 15 key informants selected: 7 administrators, 4 technical supervisors, and 4 teacher trainees.

Based on the findings, the digital performance of administrators at Kampong Chhnang Provincial Teacher Training Center consists of five key areas: Information and Data Literacy, Communication and Collaboration, Digital Content Creation, Safety, and Problem Solving. Furthermore, the administrators had a positive attitude toward developing digital competence, as reflected in their regular use of tools such as smartphones, Telegram, Facebook, and Messenger for communication and coordination. Despite this positive outlook, it indicated that their actual competence in these five key areas was limited, particularly in areas involving advanced tools, content creation, secure digital practices, and independent problem-solving. Therefore, they need to be supported in terms of building the skills and sharpening their mindset to use digital technology so they can engage themselves more effectively and proactively. The guideline for developing administrators' digital competence in the next normal era in Kampong Chhnang Provincial Teacher Training Center is followed by three main factors: 1) stakeholder support; 2) teacher training center policy and strategic plan; and 3) administrators' personal vision.

It is essential to start with the stakeholders, particularly those relevant ministries and departments that can empower the teacher training center. They need to provide guidance and resources regarding the use of ICT to the teacher training center. The center therefore has to be responsive and make an attempt to include ICT use within the center. It must set up policy and strategy planning for the center in order to advocate using digital technology at school, particularly having a common vision for administrators and personnel to engage themselves in using digital technologies. The administrators, meanwhile, need to have a personal vision in terms of shaping personal and professional growth since this will motivate them to embrace new practices, particularly digital technologies, which have influenced and been integrated into Cambodian education in the digital era.

Discussion

The researcher studies, analyzes, and offer a guideline for administrators' digital competence in the Kampong Provincial Teacher Training Center regarding five main areas: 1) Information and Data Literacy, 2) Communication and Collaboration, 3) Digital Content Creation, 4) Safety, and 5) Problem Solving.

In Information and Data Literacy area, administrators use social media and online platforms are the sources of information in the digital era. Similarly, one of the research reports prepared by JSBP (2021) had a similar finding regarding applications and online platforms used in school, as it found that Zoom is commonly used for online study, Telegram is the primary platform to share files and documents as it maintains a high solution, YouTube is for extra research, and Google is another option for gathering information. Even though gathering information is a great source for learning and school development, it is also important to know which information is trustworthy and can be used. To ensure its reliability, administrators rely on various evidence, such as information posted on the websites, which includes accurate sources, authors' names, a clear location with an address, the' institution's name and logo, an account recognized by the ministry with a legal license, and a seal from the president of the institution. It indicates that in order to determine whether or not they can trust the news, it is imperative that they obtain proof from the uploaded information. As Vedder and Wachbroit (2003 : 212) suggested, to know whether the information is reliable, it would depend on the available evidence and how that evidence supports the information.

In Communication and Collaboration area, administrators use social media to communicate with each other, and it is considered a quick and popular platform for communicating. (Ihsaniyati and et al. online.2023) conducted a study and revealed that the use of social media for knowledge sharing in the context of development, communication, and social change is significant, interesting, and in demand by many people. Even though there are various platforms used for communication, Telegram is found to be the primary one because it is easy to use and can hold a large number of documents safely and clearly. Slimily, (Filatova and et al. online.2023) discovered that the Telegram bot is one of the most convenient and simple services for automating the work of a specialist in an educational institution. The bot allows you to get an instant response to a request without requiring the participation of any other person, while the response is instant.

In the Digital Content Creation area, administrators create educational content by using the internet as a source of information, and digital devices are the supporting tools. Likewise, (Szymkowiak and et al. online.2021), the advancement of technology has had an effect on how we learn and gather knowledge. The Internet, on the other hand, provides instant access to information technology across a range of industries, which boosts productivity and saves time. The use of internet technology is given special attention in new approaches to learning and education. Even though the internet has made it easy to access information and sources, it is important to keep in mind that the source of the information must be acknowledged. When it comes to giving credit to sources, administrators affirm by putting the source in brackets or making it bold, including references, listing the authors' names, listing page numbers, confirming with the documents' logo, and indicating the documents' sources. It proves that administrators are aware of the implications of using the source they obtained and what makes it a reliable source of information. In the same way, (Santini. online. 2018) presented that good referencing includes attention to detail, such as the correct page number, the spelling of the author's names, and the accuracy of relevant facts that will be stated in the paper. Attention to referencing not only makes you a better researcher, but it also enhances your reputation amongst editors, reviewers, and readers.

In the Safety area, administrators at the Kampong Chhnang Provincial Teacher Training Center find that it is important to protect their privacy because it can prevent various risks, such as preventing their personal data from being hacked, preventing their digital devices from opening freely, and keeping documents and information safe. Although the outcome indicates that administrators are aware of the necessity to secure their personal data, technological advancements also require them to have a solid foundation in abilities. Torres and Gallego (2023 : 399) stated that a modern phenomenon called "data culture" encourages us to consider how we value our data. However, despite the fact that technology offers a lot of benefits for education, it also creates data in volumes that were unimaginable in the past. Given this approach, educators' attempts to secure data are more vulnerable, partly as a result of a lack of preparation. In order to protect their devices, administrators use different approaches, such as setting passwords, installing antivirus protection, clearing viruses often, shutting the devices correctly, beware of using plugs, cleaning dust from the devices, keeping the devices in a safe and clean place with a good temperature, and turning off the devices when they are not in use. Meanwhile, they mention viruses that propagate over the internet

and USB, as well as frequent power outages in their region, as the causes of the damage to the digital devices. When asked what may help them deal with all the hazards, they mostly focus on developing new abilities so they can share their experiences and knowledge with one another.

In Problem Solving area, administrators have used their own initiative when faced with technological difficulties. Instead of abandoning their task, they seek further assistance to address the problem at hand. To improve their digital competence, all components of the innovative digital education concept, which can improve people's competence, must be taken into consideration based on their identified demands. Similarly, Ilomäki and Lakkala (2018 : 28) suggested that when aiming for improvements, local and national school administrations focus on schools as knowledge work organizations, such as increasing the quality of pedagogical and knowledge practices in schools using digital technology. All aspects of the innovative digital school model should be considered, and the first step should be to commit the staff to change by developing shared visions and goals for pedagogical development through digital technology and by supporting school-level practices that include both students and teachers.

Even though digital technology was found to be integrated to be used at the center, the findings, however, show that all the administrative tasks have not yet been completely implemented by using technology, as the competence of the administrators and personnel in the center is still limited and needs further training and encouragement to get engaged with digital use in education. Based on the study and analysis, the researcher suggested a conceptual comprehension in the following, as shown in Figure 5.

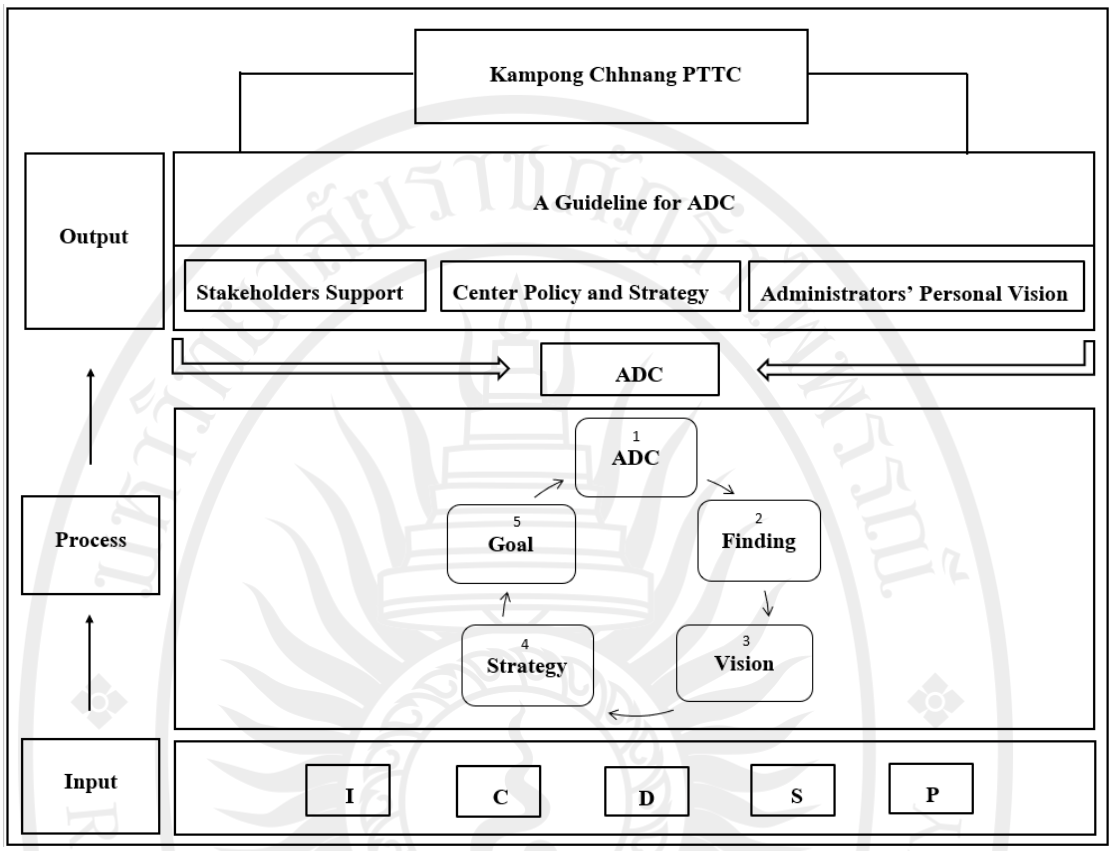

Figure 5 Conceptual Comprehension

It begins with identifying an area of focus, which consists of five main areas: Information and Data Literacy (I), Communication and Collaboration (C), Digital Content Creation (D), Safety (S), and Problem Solving (P). They are the essential aspects to consider in order to develop administrators' digital competence. Similar to one of the European reports, it indicates that these skill agendas were created for improving the quality and relevance of training and other methods of acquiring skills, making skills more visible and comparable, and improving information and understanding of skill intelligence to help people make better career choices, find quality jobs, and improve their life chances (Centeno and et al. 2019 : 3).

Then it is followed by the process, which consists of the following components: identifying an area of focus (ADC), finding, vision, strategy, and goal. After identifying the ADC, it discovers a finding that indicates that, although administrators in the Kampong Chhnang provincial teacher training center have a positive attitude toward digital technology, their current level of skill sets needs further development. Consequently, establishing a shared vision matters for the teacher training center in order to develop school administrators' digital competence. Likewise,

Llomaki and Lakkala (2018) suggested that when aiming for improvements, local and national school administrations focus on schools as knowledge work organizations, such as increasing the quality of pedagogical and knowledge practices in schools using digital technology. All aspects of the innovative digital school model should be considered, and the first step should be to commit the staff to change by developing shared visions and goals for pedagogical development through digital technology and by supporting school-level practices. Following this, it comes up with a strategy in which the center needs to pay attention to providing guiding material and assistance, providing training courses, ensuring digital devices, ensuring internet access, ensuring electricity, and providing emotional support. These are critical factors to address in order to develop administrators' digital competence in the Kampong Chhnang provincial teacher training center.

In a comparable manner, (Apsorn and et al. online.2019) stated the components of ICT school administrators' leadership should include developing plans for improving administrators' and supporting staff's technological skills; managing, supporting, and facilitating an atmosphere conducive to the use of ICT; and providing information technology (IT) resources. Additionally, this approach can help direct the way to accomplish the goal of developing administrators' digital competence in Kampong Chhnang Teacher Training Center regarding five main areas of focus: Information and Data Literacy, Communication and Collaboration, Digital Content Creation, Safety, and Problem Solving.

To accomplish the goal, having a guideline for developing administrators' digital competence is necessary. It is essential to start with the stakeholders, particularly those relevant ministries and departments that can empower the teacher training center. They need to provide guidance and resources regarding the use of ICT with strong support and encourage the center to have further engagement for the benefit of advancing the administrators' profession and enhancing their school administration management. As Heng (2021) mentioned, the use of Information and Communications Technology (ICT) in Cambodia's education system remains restricted, and the government must engage in digitalizing education, supporting Information and Communications Technology (ICT) research and development, increasing public-private partnerships, encouraging autonomous learning, and enabling the adoption of blended learning. Stakeholders such as educational institutions, instructors, parents, students, and the commercial sector will also play an

important part in realizing Cambodia's digital transformation of education. Meanwhile, the ministry of education in Cambodia has designed and implemented a strategy to accelerate education in Cambodia at all levels so that students, educators, and administrators can use Information and Communications Technology (ICT) and digital tools not only for study and work but also for their careers (MoEYS 2018).

The center therefore has to be responsive and make an attempt to include ICT use within the center. It must provide additional courses to help administrators sharpen their skills and ensure enough technical equipment, wifi, and electricity to support practice and work. More importantly, there needs to be experts that can help them hand in hand once they encounter technical issues. Further motivation and encouragement from the leaders are also necessary, as it is a great inspiration for administrators to learn and keep themselves updated with technological advancements. This aspect aligns with one of the goals and strategies of the center, which is to enhance the level of all staff members, including administrators, by providing further training, including digital technologies (PTTC. 2023). Meanwhile, Soeung and Chim (2022) proposed that, for school resumption, a digital working environment be fostered at the school level for both teachers and school administration staff. Training, internet connection infrastructure (hardware and software), digital competence, and the teaching and learning tactics of academics are all critical (Sá and Serpa. online.2020). The entire school administration must be better prepared and taught to function digitally, and 3) Adapt content and curriculum: Once administrative capability is established, one believes that the emphasis may shift to effectively adapting material for digital platforms (IIEP-UNESCO online.2020).

The administrators, meanwhile, need to have a personal vision in terms of shaping personal and professional growth since this will motivate them to embrace new practices, particularly digital technologies, which have influenced and been integrated into Cambodian education in the digital era. Along with that, they need to continue to keep up with the latest technological advances. Apart from this, they need to develop themselves by doing extensive research on the internet and other online platforms such as YouTube and Google and gathering any general knowledge posted on social media such as Facebook, TikTok, Telegram, or any other platforms that are popular and easy for them to access. In addition, they need to put effort into

practicing and using technology for their job, a hobby, or online portfolios. More significantly, they need to be willing to learn new things and attend any extra courses prepared by the center and other relevant stakeholders regarding digital technologies. Gewerc and et al. (2020) indicated that teleworking abilities, self-regulated learning skills of the individual engaged in digital environments all of these variables reveal a desire for deep, critical, and ongoing learning that will enable people to stay in control of their own lives. According to, (Ilomäki. online. 2011) one of the components of digital competence is motivation to participate in the digital culture while Van Dijk and Deursen (2014) raise similarly that the most natural approach to learn digital technologies is to do and seek supports from others in their social surroundings.

Recommendations

Stakeholders

- Provide guidance and resources regarding the use of ICT for the Teacher Training Center.

- Support and advocate digital technologies within the Teacher Training Center.

Teacher Training Center

- Be responsive and make an attempt to include ICT use within the center.

- Set up policy and strategy planning particularly having a common vision for administrators to engage themselves in using digital technologies.

- Provide additional courses to help administrators sharpen their skills.

- Ensure enough technical equipment, wifi, and electricity to support practice and work.

- Provide experts that can help them hand in hand once they encounter technical issues.

- Motivation and encouragement administrators and personnel to engage themselves in using digital technologies.

Administrators

- Establish a personal vision to shape personal and professional growth.

- Keep up with the latest technological advances.

- Do extensive research on the internet and other online platforms.

- Put effort into practicing and using technology for their job, a hobby, or online portfolios

- Be willing to learn new things and attend any extra courses prepared by the center and other relevant stakeholders regarding digital technologies.

Further Research

- The larger population and key informants can be expanded.

- Different approaches may be tried in the future since they may reveal additional factors.

- Be well prepared, be more attentive, and coordinate with the interviewee when any of them express longer than the time provided.

- A friendly rule can be established before the interview, depending on the actual situation.

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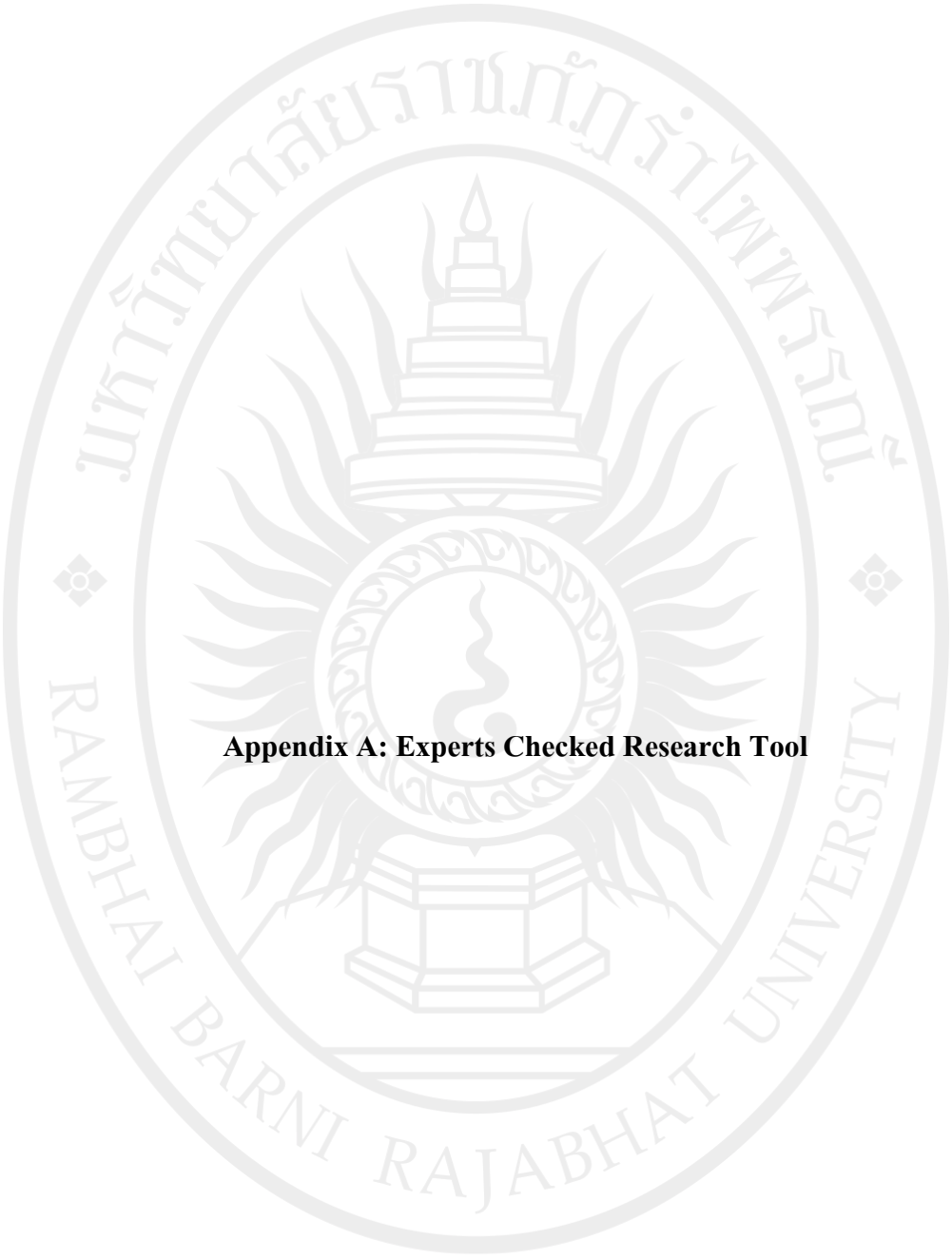
Appendices



Appendix A: Experts Checked Research Tool

Experts Checked Research Tool

1.	Mr. Ravy Voeun	Vice-Head of Research and Development Division at SEAMEO TED, Cambodia.
2.	Miss. Chayanan Nawapornanan	Senior Data Architect Specialist at Thai Beverage Public Company Limited.
3.	Mr. Rady Soeun	Officer for the Officer of Internal Quality Assurance at Phnom Penh Teacher Education College (PTEC).
4.	Mr. Sovannarith Horn	Project Program Coordinator, and Ph.D. program. assistant at VSO Cambodia& Royal University of Phnom Penh.
5.	Mr. Sambo Horn	Teacher Trainer at Kampong Chhnang Provincial Teacher Training Center.

Appendix B: Expert Invitation and Data Collection Request Letters

ที่ อว ๐๖๓๑.๐๒/๘๐๓

คณะครุศาสตร์
มหาวิทยาลัยราชภัฏรำไพพรรณี
อำเภอเมือง จังหวัดจันทบุรี ๒๒๐๐๐

๑๕ มิถุนายน ๒๕๖๖

เรื่อง ขอความอนุเคราะห์เก็บรวบรวมข้อมูลเพื่อการวิจัย

เรียน Director of Kampong Chhnang Provincial Teacher Training Center (PTTC)

สิ่งที่ส่งมาด้วย ๑. แบบสอบถามเพื่อการวิจัย จำนวน ๔ ฉบับ

ด้วย Miss Srey Sokveasna นักศึกษาระดับปริญญาโท หลักสูตรครุศาสตรมหาบัณฑิต สาขาวิชาการบริหารการศึกษา ได้รับอนุมัติให้ทำวิทยานิพนธ์เรื่อง "แนวทางการพัฒนาสมรรถนะดิจิทัลของผู้บริหารในยุคปรกติถัดไปในศูนย์ฝึกอบรมครูประจำจังหวัดกำปงชะนัง ประเทศกัมพูชา" โดยมี ผู้ช่วยศาสตราจารย์ ดร.ธีรังกูร วรบำรุงกุล เป็นอาจารย์ที่ปรึกษาวิทยานิพนธ์หลัก ผู้ช่วยศาสตราจารย์ ดร.จักรพันธุ์ วงษ์พา และอาจารย์ ดร.เริงวิชญ์ นิลโคตร เป็นอาจารย์ที่ปรึกษาวิทยานิพนธ์ร่วม

เพื่อให้การดำเนินการทำวิทยานิพนธ์เป็นไปด้วยความเรียบร้อย คณะครุศาสตร์ มหาวิทยาลัยราชภัฏรำไพพรรณี จึงขอความอนุเคราะห์จากท่านโปรดอนุญาตให้ Miss Srey Sokveasna เก็บรวบรวมข้อมูลการวิจัยดังกล่าว

จึงเรียนมาเพื่อโปรดพิจารณา หวังว่าจะได้รับความอนุเคราะห์จากท่านด้วยดี และขอขอบคุณมา ณ โอกาสนี้

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.วิวัฒน์ เพชรศรี)
คณบดีคณะครุศาสตร์

สำนักงานคณบดีคณะครุศาสตร์
โทรศัพท์. ๐-๓๙๓๑-๙๑๑๑ ต่อ ๑๐๒๙๐, ๑๐๒๐๐

ที่ อว ๐๖๓๑.๐๒/๗๘๐

คณะครุศาสตร์
มหาวิทยาลัยราชภัฏรำไพพรรณี
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๘ มิถุนายน ๒๕๖๖

เรื่อง ขอเชิญเป็นผู้ทรงคุณวุฒิ

เรียน Sambo Horn

ด้วย Miss Srey Sokveasna นักศึกษาระดับปริญญาโท หลักสูตรครุศาสตรมหาบัณฑิต สาขาวิชาการบริหารการศึกษา ได้รับอนุมัติให้ทำวิทยานิพนธ์เรื่อง "แนวทางการพัฒนาสมรรถนะดิจิทัลของผู้บริหารในยุคปรกติถัดไปในศูนย์ฝึกอบรมครูประจำจังหวัดกำปงชะนัง ประเทศกัมพูชา" โดยมีผู้ช่วยศาสตราจารย์ ดร.ธีรังกูร วรบำรุงกุล เป็นอาจารย์ที่ปรึกษาวิทยานิพนธ์หลัก ผู้ช่วยศาสตราจารย์ ดร.จักรพันธุ์ วงษ์พา และอาจารย์ ดร.เริงวิชญ์ นิลโคตร เป็นอาจารย์ที่ปรึกษาวิทยานิพนธ์ร่วม

คณะครุศาสตร์ มหาวิทยาลัยราชภัฏรำไพพรรณี พิจารณาแล้วเห็นว่าท่านเป็นผู้เชี่ยวชาญในเรื่องดังกล่าวเป็นอย่างดี จึงขอเรียนเชิญเป็นผู้ทรงคุณวุฒิตรวจความตรงของเครื่องมือที่นักศึกษาสร้างขึ้นเพื่อใช้ในการวิจัยดังกล่าว

จึงเรียนมาเพื่อโปรดพิจารณา หวังเป็นอย่างยิ่งว่าจะได้รับความอนุเคราะห์จากท่านด้วยดี และขอขอบคุณ มา ณ โอกาสนี้

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๘ มิถุนายน ๒๕๖๖

เรื่อง ขอเชิญเป็นผู้ทรงคุณวุฒิ

เรียน Mr.Rady Soeun

ด้วย Miss Srey Sokveasna นักศึกษาระดับปริญญาโท หลักสูตรครุศาสตรมหาบัณฑิต สาขาวิชาการบริหารการศึกษา ได้รับอนุมัติให้ทำวิทยานิพนธ์เรื่อง "แนวทางการพัฒนาสมรรถนะดิจิทัลของผู้บริหารในยุคปรกติถัดไปในศูนย์ฝึกอบรมครูประจำจังหวัดกำปงชะนัง ประเทศกัมพูชา" โดยมี ผู้ช่วยศาสตราจารย์ ดร.ธีรังกูร วรบำรุงกุล เป็นอาจารย์ที่ปรึกษาวิทยานิพนธ์หลัก ผู้ช่วยศาสตราจารย์ ดร.จักรพันธุ์ วงษ์พา และอาจารย์ ดร.เริงวิชญ์ นิลโคตร เป็นอาจารย์ที่ปรึกษาวิทยานิพนธ์ร่วม

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เรื่อง ขอเชิญเป็นผู้ทรงคุณวุฒิ

เรียน Mr.Sovannarith Horn

ด้วย Miss Srey Sokveasna นักศึกษาระดับปริญญาโท หลักสูตรครุศาสตรมหาบัณฑิต สาขาวิชาการบริหารการศึกษา ได้รับอนุมัติให้ทำวิทยานิพนธ์เรื่อง "แนวทางการพัฒนาสมรรถนะดิจิทัลของผู้บริหารในยุคปรกติถัดไปในศูนย์ฝึกอบรมครูประจำจังหวัดกำปงชะนัง ประเทศกัมพูชา" โดยมีผู้ช่วยศาสตราจารย์ ดร.ธีรังกูร วรบำรุงกุล เป็นอาจารย์ที่ปรึกษาวิทยานิพนธ์หลัก ผู้ช่วยศาสตราจารย์ ดร.จักรพันธุ์ วงษ์พา และอาจารย์ ดร.เริงวิชญ์ นิลโคตร เป็นอาจารย์ที่ปรึกษาวิทยานิพนธ์ร่วม

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ขอแสดงความนับถือ

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คณบดีคณะครุศาสตร์

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๘ มิถุนายน ๒๕๖๖

เรื่อง ขอเชิญเป็นผู้ทรงคุณวุฒิ

เรียน Dr.Chayanan Nawapornanan

ด้วย Miss Srey Sokveasna นักศึกษาระดับปริญญาโท หลักสูตรครุศาสตรมหาบัณฑิต สาขาวิชาการบริหารการศึกษา ได้รับอนุมัติให้ทำวิทยานิพนธ์เรื่อง "แนวทางการพัฒนาสมรรถนะดิจิทัลของผู้บริหารในยุคปรกติถัดไปในศูนย์ฝึกอบรมครูประจำจังหวัดกำปงชะนัง ประเทศกัมพูชา" โดยมี ผู้ช่วยศาสตราจารย์ ดร.ธีรังกูร วรบำรุงกุล เป็นอาจารย์ที่ปรึกษาวิทยานิพนธ์หลัก ผู้ช่วยศาสตราจารย์ ดร.จักรพันธุ์ วงษ์พา และอาจารย์ ดร.เริงวิชญ์ นิลโคตร เป็นอาจารย์ที่ปรึกษาวิทยานิพนธ์ร่วม

คณะครุศาสตร์ มหาวิทยาลัยราชภัฏรำไพพรรณี พิจารณาแล้วเห็นว่าท่านเป็นผู้เชี่ยวชาญในเรื่องดังกล่าวเป็นอย่างดี จึงขอเรียนเชิญเป็นผู้ทรงคุณวุฒิตรวจความตรงของเครื่องมือที่นักศึกษาสร้างขึ้นเพื่อใช้ในการวิจัยดังกล่าว

จึงเรียนมาเพื่อโปรดพิจารณา หวังเป็นอย่างยิ่งว่าจะได้รับความอนุเคราะห์จากท่านด้วยดี และขอขอบคุณ มา ณ โอกาสนี้

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.วิวัฒน์ เพชรศรี)
คณบดีคณะครุศาสตร์

สำนักงานคณบดีคณะครุศาสตร์
โทรศัพท์. ๐-๓๙๓๑-๙๑๑๑ ต่อ ๑๐๒๙๐, ๑๐๒๐๐

ที่ อว ๐๖๓๑.๐๒/๗๘๒

คณะครุศาสตร์
มหาวิทยาลัยราชภัฏรำไพพรรณี
อำเภอเมือง จังหวัดจันทบุรี ๒๒๐๐๐

๘ มิถุนายน ๒๕๖๖

เรื่อง ขอเชิญเป็นผู้ทรงคุณวุฒิ

เรียน Mr.Ravy Voeun

ด้วย Miss Srey Sokveasna นักศึกษาระดับปริญญาโท หลักสูตรครุศาสตรมหาบัณฑิต สาขาวิชาการบริหารการศึกษา ได้รับอนุมัติให้ทำวิทยานิพนธ์เรื่อง "แนวทางการพัฒนาสมรรถนะดิจิทัลของผู้บริหารในยุคปรกติถัดไปในศูนย์ฝึกอบรมครูประจำจังหวัดกำปงชะนัง ประเทศกัมพูชา" โดยมีผู้ช่วยศาสตราจารย์ ดร.ธีรังกูร วรบำรุงกุล เป็นอาจารย์ที่ปรึกษาวิทยานิพนธ์หลัก ผู้ช่วยศาสตราจารย์ ดร.จักรพันธุ์ วงษ์พา และอาจารย์ ดร.เริงวิชญ์ นิลโคตร เป็นอาจารย์ที่ปรึกษาวิทยานิพนธ์ร่วม

คณะครุศาสตร์ มหาวิทยาลัยราชภัฏรำไพพรรณี พิจารณาแล้วเห็นว่าท่านเป็นผู้เชี่ยวชาญในเรื่องดังกล่าวเป็นอย่างดี จึงขอเรียนเชิญเป็นผู้ทรงคุณวุฒิตรวจความตรงของเครื่องมือที่นักศึกษาสร้างขึ้นเพื่อใช้ในการวิจัยดังกล่าว

จึงเรียนมาเพื่อโปรดพิจารณา หวังเป็นอย่างยิ่งว่าจะได้รับความอนุเคราะห์จากท่านด้วยดี และขอขอบคุณ มา ณ โอกาสนี้

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.วิวัฒน์ เพชรศรี)
คณบดีคณะครุศาสตร์

สำนักงานคณบดีคณะครุศาสตร์
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Appendix C: Research Tool in English and Khmer

Interview Questions for School Leaders

I. Personal Information

1. What is your name?
2. What is your position?
3. How long have you been working in teacher training center?

II. Questions related to digital competence

1. What do you use to access information for your educational purposes in the digital era?
2. What do you do to ensure that the information you find on the Internet is accurate, safe, and reliable?
3. How do you share documents with your colleagues through digital technologies?
4. What method do you use to create education plans for school development through the use of digital tools?
5. When you extract information or ideas from other people's documents through digital technologies for the purpose of creating educational content, how do you confirm to know that the document is the content you are quoting?
6. Why do you think it is important to protect your personal data and privacy?
7. How do you avoid risks that can be harmful to your digital devices?
8. What do you typically proceed to resolve the issue when encountering technical difficulties with digital technologies?
9. What identifying needs do you think can help with your technical response?

Kampong Chhnang, Day 4 Month August Year 2023

Interviewer

Sokveasna Srey

Interview Questions for Administrators

I. Personal Information

4. Can you introduce yourself regarding your name, year of experience, and position, please?

II. Questions related to digital competence

10. What do you use to access information for your educational purposes in the digital era?
11. What do you do to ensure that the information you find on the Internet is accurate, safe, and reliable?
12. How do you share documents with your colleagues through digital technologies?
13. What method do you use to create education plans for school development through the use of digital tools?
14. When you extract information or ideas from other people's documents through digital technologies for the purpose of creating educational content, how do you confirm to know that the document is the content you are quoting?
15. Why do you think it is important to protect your personal data and privacy?
16. How do you avoid risks that can be harmful to your digital devices?
17. What do you typically proceed to resolve the issue when encountering technical difficulties with digital technologies?
18. What identifying needs do you think can help with your technical response?

Kampong Chhnang, Day 4 Month August Year 2023

Interviewer

Sokveasna Srey

សំណួរសម្ភាសន៍សម្រាប់ គណៈគ្រប់គ្រង

I. ព័ត៌មានផ្ទាល់ខ្លួន

1. តើលោកគ្រូ/អ្នកគ្រូ មានឈ្មោះអ្វី?
2. តើលោកគ្រូ/អ្នកគ្រូ មានតួនាទីជាអ្វី?
   នាយកសាលាគរុកោសល្យខេត្តកំពង់ឆ្នាំង
3. តើលោកគ្រូ/អ្នកគ្រូ បម្រើការនៅសាលាគរុកោសល្យប៉ុន្មានឆ្នាំហើយ?

II. សំណួរសម្ភាសន៍ទាក់ទងនឹងសមត្ថភាពក្នុងការប្រើប្រាស់ប្រព័ន្ធឌីជីថល

1. តើលោកគ្រូ/អ្នកគ្រូ ប្រើមធ្យោបាយអ្វីក្នុងការចូលរកព័ត៌មានសម្រាប់ការអប់រំក្នុងយុគសម័យឌីជីថលនេះ?
2. តើលោកគ្រូ/អ្នកគ្រូ ដឹងដោយរបៀបណាថាព័ត៌មានដែលលោកគ្រូ /អ្នកគ្រូ រកតាមអ៊ីធើណេតគឺមានភាពច្បាស់លាស់ មានសុវត្ថិភាព និងគួរឱ្យទុកចិត្តបាន?
3. តើលោកគ្រូ/អ្នកគ្រូ ចែករំលែកឯកសារផ្សេងៗទៅកាន់អ្នករួមការងាររបស់លោកគ្រូ /អ្នកគ្រូ តាមប្រព័ន្ធបច្ចេកវិទ្យាឌីជីថលដោយរបៀបណា?
4. តើលោកគ្រូ/អ្នកគ្រូ ប្រើប្រាស់មធ្យោបាយអ្វីខ្លះក្នុងការបង្កើតផែនការសម្រាប់ការអភិវឌ្ឍ ការអប់រំក្នុងសាលាតាមរយៈប្រព័ន្ធឌីជីថល?
5. នៅពេលដែលលោកគ្រូ/អ្នកគ្រូ ដកស្រង់ព័ត៌មានឬគំនិត ចេញពីឯកសាររបស់អ្នកដ៏ទៃក្នុងគោលបំណងបង្កើតខ្លឹមសារអប់រំ តើលោកគ្រូ /អ្នកគ្រូបញ្ជាក់ដោយរបៀបណាដើម្បីឱ្យដឹងថាឯកសារនោះជាខ្លឹមសារដែលលោកគ្រូ/អ្នកគ្រូ បានដកស្រង់មក?
6. ហេតុអ្វីបានជាលោកគ្រូ /អ្នកគ្រូ គិតថាវាមានសារៈសំខាន់ក្នុងការ ការពារទិន្នន័យផ្ទាល់ខ្លួន និងភាពឯកជនរបស់លោកគ្រូ/អ្នកគ្រូ ក្នុងការប្រើប្រាស់ប្រព័ន្ធឌីជីថលក្នុងការអប់រំ?
7. តើលោកគ្រូ/អ្នកគ្រូ ជៀសវាងពីហានិភ័យដែលអាចបង្កគ្រោះថ្នាក់ដល់ឧបករណ៍ឌីជីថលរបស់លោកគ្រូ/អ្នកគ្រូ ដោយរបៀបណា?
8. តើលោកគ្រូ/អ្នកគ្រូ ដោះស្រាយយ៉ាងដូចម្តេចខ្លះនៅពេលលោកគ្រូ/អ្នកគ្រូ ជួបបញ្ហាបច្ចេកទេសក្នុងការប្រើប្រាស់បច្ចេកវិទ្យាឌីជីថល?
9. តើតម្រូវការអ្វីខ្លះដែលលោកគ្រូ /អ្នកគ្រូ យល់ថាអាចជួយអ្នកដោះស្រាយបញ្ហាបច្ចកទេសនៅពេលប្រើប្រាស់បច្ចេកវិទ្យាឌីជីថល?

កំពង់ឆ្នាំង ថ្ងៃទី ៤ ខែ សីហា ឆ្នាំ ២០២៣

អ្នកសម្ភាសន៍

ស្រី សុខវាសនា

សំណួរសម្ភាសន៍សម្រាប់ បុគ្គលិករដ្ឋបាល

I. ព័ត៌មានផ្ទាល់ខ្លួន

1. តើលោកគ្រូ/អ្នកគ្រូអាចណែនាំពីខ្លួនឯងបន្តិចបានទេ?

II. សំណួរសម្ភាសន៍ទាក់ទងនឹងសម្ភាពក្នុងការប្រើប្រាស់ប្រព័ន្ធឌីជីថល

1. តើលោកគ្រូ/អ្នកគ្រូ ប្រើមធ្យោបាយអ្វីក្នុងការចូលរកព័ត៌មានសម្រាប់ការអប់រំក្នុងយុគសម័យឌីជីថលនេះ?
2. តើលោកគ្រូ/អ្នកគ្រូ ដឹងដោយរបៀបណាថាព័ត៌មានដែលលោកគ្រូ /អ្នកគ្រូ រកតាមអ៊ីធើណេតគឺមានភាពច្បាស់លាស់ មានសុវត្ថិភាព និងគួរឱ្យទុកចិត្តបាន?
3. តើលោកគ្រូ/អ្នកគ្រូ ចែករំលែកឯកសារផ្សេងៗទៅកាន់អ្នករួមការងាររបស់លោកគ្រូ /អ្នកគ្រូ តាមប្រព័ន្ធបច្ចេកវិទ្យាឌីជីថលដោយរបៀបណា?
4. តើលោកគ្រូ/អ្នកគ្រូ ប្រើប្រាស់មធ្យោបាយអ្វីខ្លះក្នុងការបង្កើតផែនការសម្រាប់ការអភិវឌ្ឍ ការអប់រំក្នុងសាលាតាមរយៈប្រព័ន្ធឌីជីថល?
5. នៅពេលដែលលោកគ្រូ/អ្នកគ្រូ ដកស្រង់ព័ត៌មានឬគំនិត ចេញពីឯកសាររបស់អ្នកដ៏ទៃក្នុងគោលបំណងបង្កើតខ្លឹមសារអប់រំ តើលោកគ្រូ /អ្នកគ្រូបញ្ជាក់ដោយរបៀបណាដើម្បីឱ្យដឹងថាឯកសារនោះជាខ្លឹមសារដែលលោកគ្រូ/អ្នកគ្រូ បានដកស្រង់មក?
6. ហេតុអ្វីបានជាលោកគ្រូ /អ្នកគ្រូ គិតថាវាមានសារៈសំខាន់ក្នុងការ ការពារទិន្នន័យផ្ទាល់ខ្លួន និងភាពឯកជនរបស់លោកគ្រូ/អ្នកគ្រូ ក្នុងការប្រើប្រាស់ប្រព័ន្ធឌីជីថលក្នុងការអប់រំ?
7. តើលោកគ្រូ/អ្នកគ្រូ ជៀសវាងពីហានិភ័យដែលអាចបង្កគ្រោះថ្នាក់ដល់ឧបករណ៍ឌីជីថលរបស់លោកគ្រូ/អ្នកគ្រូ ដោយរបៀបណា?
8. តើលោកគ្រូ/អ្នកគ្រូ ដោះស្រាយយ៉ាងដូចម្តេចខ្លះនៅពេលលោកគ្រូ/អ្នកគ្រូ ជួបបញ្ហាបច្ចេកទេសក្នុងការប្រើប្រាស់បច្ចេកវិទ្យាឌីជីថល?
9. តើតម្រូវការអ្វីខ្លះដែលលោកគ្រូ /អ្នកគ្រូ យល់ថាអាចជួយអ្នកដោះស្រាយបញ្ហាបច្ចកទេសនៅពេលប្រើប្រាស់បច្ចេកវិទ្យាឌីជីថល?

កំពង់ឆ្នាំង ថ្ងៃទី ៤ ខែ សីហា ឆ្នាំ ២០២៣

អ្នកសម្ភាសន៍

ស្រី សុខវាសនា

សំណួរសម្ភាសន៍សម្រាប់ ប្រធានក្រុមបច្ចេកទេស

I. ព័ត៌មានផ្ទាល់ខ្លួន

1.តើលោកគ្រូ/អ្នកគ្រូអាចណែនាំពីខ្លួនឯងបន្តិចបានទេ?

II. សំណួរសម្ភាសន៍ទាក់ទងនឹងសម្ភភាពក្នុងការប្រើប្រាស់ប្រព័ន្ធឌីជីថល

1. តើលោកគ្រូ/អ្នកគ្រូគិតថារដ្ឋបាលសាលារៀនរបស់លោកគ្រូ/អ្នកគ្រូប្រើមធ្យោបាយអ្វីក្នុងការចូលរកព័ត៌មានសម្រាប់ការអប់រំក្នុងយុគសម័យឌីជីថលនេះ?
2. តើលោកគ្រូ /អ្នកគ្រូគិតថារដ្ឋបាលសាលារៀនរបស់លោកគ្រូ /អ្នកគ្រូដឹងដោយរបៀបណាថាព័ត៌មានដែលពួកគាត់រកតាមអ៊ីធើនេតគឺមានភាពច្បាស់លាស់ មានសុវត្ថិភាព និងគួរឱ្យទុកចិត្តបាន?
3. តើលោកគ្រូ/អ្នកគ្រូគិតថារដ្ឋបាលសាលារៀនរបស់លោកគ្រូ /អ្នកគ្រូ ចែករំលែកឯកសារផ្សេងៗទៅកាន់អ្នករួមការងាររបស់ពួកគាត់ តាមប្រព័ន្ធបច្ចេកវិទ្យាឌីជីថលដោយរបៀបណា?
4. តើលោកគ្រូ/អ្នកគ្រូគិតថារដ្ឋបាលសាលារៀនរបស់លោកគ្រូ /អ្នកគ្រូ ប្រើប្រាស់មធ្យោបាយអ្វីខ្លះក្នុងការបង្កើតផែនការសម្រាប់ការអភិវឌ្ឍ ការអប់រំក្នុងសាលាតាម
រយៈប្រព័ន្ធឌីជីថល?
5. នៅពេលដែលរដ្ឋបាលសាលារៀនរបស់លោកគ្រូ /អ្នកគ្រូដកស្រង់ព័ត៌មានឬគំនិត ចេញពីឯកសាររបស់អ្នកដ៏ទៃក្នុងគោលបំណងបង្កើតខ្លឹមសារអប់រំ តើលោកគ្រូ/អ្នកគ្រូគិតថាពួកគាត់បញ្ជាក់ដោយរបៀបណាដើម្បីឱ្យដឹងថាឯកសារនោះជាខ្លឹមសារដែលពួកគាត់ បានដកស្រង់មក?
6. តើលោកគ្រូ/អ្នកគ្រូគិតថាហេតុអ្វីបានជារដ្ឋបាលរបស់សាលារៀនរបស់លោកគ្រូ /អ្នកគ្រូយល់ថាវាមានសារៈសំខាន់ក្នុងការ ការពារទិន្នន័យផ្ទាល់ខ្លួន និងភាពឯកជនរបស់ពួកគាត់ ក្នុងការប្រើប្រាស់ប្រព័ន្ធឌីជីថលក្នុងការអប់រំ?
7. តើលោកគ្រូ/អ្នកគ្រូគិតថារដ្ឋបាលសាលារៀនរបស់លោកគ្រូ/អ្នកគ្រូ ជៀសវាងពីហានិភ័យដែលអាចបង្កគ្រោះថ្នាក់ដល់ឧបករណ៍ឌីជីថលរបស់ពួកគាត់ ដោយរបៀបណា?
8. តើលោកគ្រូ/អ្នកគ្រូគិតថារដ្ឋបាលសាលារៀនរបស់លោកគ្រូ/អ្នកគ្រូ ដោះស្រាយយ៉ាងដូចម្តេចខ្លះនៅពេលដែលេពួកគាត់ ជួបបញ្ហាបច្ចេកទេសក្នុងការប្រើប្រាស់
បច្ចេកវិទ្យាឌីជីថល?
9. តើតម្រូវការអ្វីខ្លះដែលរដ្ឋបាលសាលារៀនរបស់លោកគ្រូ /អ្នកគ្រូ យល់ថាអាចជួយពួកគាត់ដោះស្រាយបញ្ហាបច្ចកទេសនៅពេលប្រើប្រាស់បច្ចេកវិទ្យាឌីជីថលរបស់ពួកគាត់?

កំពង់ឆ្នាំង ថ្ងៃទី ៤ ខែ សីហា ឆ្នាំ ២០២៣

អ្នកសម្ភាសន៍

ស្រី សុខវាសនា

សំណួរសម្ភាសន៍សម្រាប់គរុសិស្ស

I. ព័ត៌មានផ្ទាល់ខ្លួន

1. តើប្អូនអាចណែនាំខ្លួនឯងបន្តិចបានទេ?

II. សំណួរសម្ភាសន៍ទាក់ទងនឹងសម្ថភាពក្នុងការប្រើប្រាស់ប្រព័ន្ធឌីជីថល

1. តើប្អូនគិតថារដ្ឋបាលសាលារៀនរបស់ប្អូនប្រើមធ្យោបាយអ្វីក្នុងការចូលរកព័ត៌មានសម្រាប់ការអប់រំក្នុងយុគសម័យឌីជីថលនេះ?
2. តើប្អូនគិតថារដ្ឋបាលសាលារៀនរបស់ប្អូនដឹងដោយរបៀបណាថាព័ត៌មានដែលពួកគាត់រកតាមអ៊ីធើនេតគឺមានភាពច្បាស់លាស់ មានសុវត្ថិភាព និងគួរឱ្យទុកចិត្តបាន?
3. តើប្អូនគិតថារដ្ឋបាលសាលារៀនរបស់ប្អូនចែករំលែកឯកសារផ្សេងៗទៅកាន់អ្នករួមការងាររបស់ពួកគាត់តាមប្រព័ន្ធបច្ចេកវិទ្យាឌីជីថលដោយរបៀបណា?
4. តើប្អូនគិតថារដ្ឋបាលសាលារៀនរបស់ប្អូនប្រើប្រាស់មធ្យោបាយអ្វីខ្លះក្នុងការបង្កើតផែនការសម្រាប់ការអភិវឌ្ឍ ការអប់រំក្នុងសាលាតាមរយៈប្រព័ន្ធឌីជីថល?
5. នៅពេលដែលរដ្ឋបាលសាលារៀនរបស់ប្អូនដកស្រង់ព័ត៌មានឬគំនិត ចេញពីឯកសាររបស់អ្នកដ៏ទៃតាមរយៈប្រព័ន្ធឌីជីថល ក្នុងគោលបំណងបង្កើតខ្លឹមសារអប់រំ តើប្អូនគិតថាពួកគាត់បញ្ជាក់ដោយរបៀបណាដើម្បីឱ្យដឹងថាឯកសារនោះជាខ្លឹមសារដែលពួកគាត់ បានដកស្រង់មក?
6. តើប្អូនគិតថាហេតុអ្វីបានជារដ្ឋបាលរបស់សាលារៀនរបស់ប្អូនយល់ថាវាមានសារៈសំខាន់ក្នុងការ ការពារទិន្នន័យផ្ទាល់ខ្លួន និងភាពឯកជនរបស់ពួកគាត់ ក្នុងការប្រើប្រាស់ប្រព័ន្ធឌីជីថលក្នុងការអប់រំ?
7. តើប្អូនគិតថារដ្ឋបាលសាលារៀនរបស់ប្អូនជៀសវាងពីហានិភ័យដែលអាចបង្កគ្រោះថ្នាក់ដល់ឧបករណ៍ឌីជីថលរបស់ពួកគាត់ដោយរបៀបណា?
8. តើប្អូនគិតថារដ្ឋបាលសាលារៀនរបស់ប្អូនដោះស្រាយយ៉ាងដូចម្តេចខ្លះនៅពេលដៃលេពួកគាត់ ជួបបញ្ហាបច្ចេកទេសក្នុងការប្រើប្រាស់បច្ចេកវិទ្យាឌីជីថល?
9. តើតម្រូវការអ្វីខ្លះដែលរដ្ឋបាលសាលារៀនរបស់ប្អូន យល់ថាអាចជួយពួកគាត់ដោះស្រាយបញ្ហាបច្ចកទេសនៅពេលប្រើប្រាស់បច្ចេកវិទ្យាឌីជីថលរបស់ពួកគាត់?

កំពង់ឆ្នាំង ថ្ងៃទី ៤ ខែ សីហា ឆ្នាំ ២០២៣

អ្នកសម្ភាសន៍

ស្រី សុខវាសនា

Appendix D : Participants Requesting Letter

ព្រះរាជាណាចក្រកម្ពុជា
ជាតិ សាសនា ព្រះមហាក្សត្រ

សូមគោរពជូន

លោកនាយកសាលាគរុកោសល្យ និងវិទ្រីតការខេត្តកំពង់ឆ្នាំង

កម្មវត្ថុ៖ សំណើរសុំ អ្នកទទួលបទសម្ភាសន៍ដែលកំពុងបម្រើការនៅសាលាគរុកោសល្យ និងវិទ្រីតការខេត្តកំពង់ឆ្នាំង សម្រាប់ការសិក្សាស្រាវជ្រាវលើប្រធានបទ "ការណែនាំចំពោះការពង្រឹងសមត្ថភាពរបស់រដ្ឋបាលសាលារៀនក្នុងការប្រើប្រាស់ប្រព័ន្ធឌីជីថលក្នុងសម័យកាលធម្មតាបន្ទាប់ពីសម័យកាលជំងឺកូវីដ-១៩ នៅសាលាគរុកោសល្យ និងវិទ្រីតការខេត្តកំពង់ឆ្នាំង ប្រទេសកម្ពុជា"

យោង៖ តាមលិខិតស្នើរសុំរបស់សាកលវិទ្យាល័យ Rambhai Barni Rajabhat University នៃ ព្រះរាជាណាចក្រថៃឡង់ លេខ 0631.02/803

តាមរយៈកម្មវត្ថុខាងលើ នាងខ្ញុំសូមគោរពជូន លោកនាយកសាលាគរុកោសល្យ និងវិទ្រីតការ ខេត្តកំពង់ឆ្នាំងដើម្បីស្នើរ សុំអ្នកទទួលបទសម្ភាសន៍ដែលមានតួនាទីដូចខាងក្រោម៖

១. គណៈគ្រប់គ្រង	៦. ប្រធានវគ្គ
២. បុគ្គលិកផ្នែកសិក្សា	៧. អនុប្រធានវគ្គ
៣. បុគ្គលិកផ្នែករដ្ឋបាល	៨. ប្រធានថ្នាក់ (ទាំងពីរថ្នាក់)
៤. ប្រធានក្រុមបច្ចេកទេស	
៥. គ្រូឧទ្ទេសផ្នែក ICT	

អាស្រ័យហេតុដូចបានគោរពជូនខាងលើ សូម**លោកនាយក**មេត្តាពិនិត្យ និងជួយសម្រួលដោយក្តីអនុគ្រោះ។

សូម **លោកនាយក** ទទួលនូវការគោរពដ៏ខ្ពង់ខ្ពស់ពីនាងខ្ញុំ។

ថ្ងៃពុធ ១ កើត ខែអស្សុជ ឆ្នាំថោះ បញ្ចស័ក ព.ស ២៥៦៧
កំពង់ឆ្នាំង ថ្ងៃទី ០២ ខែ សីហា ឆ្នាំ ២០២៣

បានឃើញ និងឯកភាព
នាយក

ហ៊ូ តារិទ្ធ

អ្នកស្នើរសុំ

ស្រី សុខវាសនា

Appendix E : Participant List

ព្រះរាជាណាចក្រកម្ពុជា
ជាតិ សាសនា ព្រះមហាក្សត្រ

គណៈគ្រប់គ្រង គ្រូឧទ្ទេសនីង គរុសិស្សគោលដៅសម្រាប់ការសម្ភាសក្នុងការប្រមូលទិន្នន័យលើការសិក្សាស្រាវជ្រាវ

ប្រធានបទ៖ ការណែនាំចំពោះការពង្រឹងសមត្ថភាពរបស់រដ្ឋបាលសាលារៀនក្នុងការប្រើប្រាស់ប្រព័ន្ធឌីជីថលក្នុងសម័យកាលធម្មតាបន្ទាប់ពីសម័យកាលជំងឺកូវីដ-១៩ នៅសាលាគរុកោសល្យ និងវិក្រឹតការខេត្តកំពង់ឆ្នាំង ប្រទេសកម្ពុជា

ល.រ	នាម គោត្តនាម	ភេទ	តួនាទី	លេខទូរស័ព្ទ	ផ្សេងៗ	
1	ហ៊ូ ភារិន្ទ	ប	នាយក		8:00am	04/08/23
2	ឌី ស៊ីថា	ប	នាយករងទី១		10:00am	ព្រឹក
3	សែម វិធីតា	ស	នាយិការងទី២		9:00am	
4	គឹម រតនា	ស	ផ្នែករដ្ឋបាល		8:00am	03/08/22
5	ស្រី គឹមសុង	ប	ផ្នែករដ្ឋបាល		8:00am	ព្រឹក
6	ឈឹម សៅគី	ប	ផ្នែករដ្ឋបាល		8:00am	
7	ម៉ក់ បូណា	ប	ផ្នែកសិក្សា		8:00am	
8	ប៉ុល តុងវត្តី	ស	បណ្ណារក្ស		8:00am	
9	ឆៃ ឆត្រា	ប	ផ្នែកសិក្សា		8:00am	
10	ប្រាក់ ណារ័ត្ន	ស	ប្រធានបច្ចេកទេសភាសាខ្មែរ		9:30am	
11	ឆេង វុឌ្ឍី	ប	ប្រធានបច្ចេកទេសគណិតវិទ្យា		9:30am	
12	ប្រាក់ ចិន្តា	ស	ប្រធានបច្ចេកទេសសិក្សាសង្គម		9:30am	
13	សួង ឯកវីរៈ	ប	គ្រូឧទេស(ICT)		9:30am	
14	សុខ វឌ្ឍនៈ	ប	ប្រធានវគ្គ		2:00pm	04/08/23
15	អ៊ុត សិរីរតនៈ	ប	អនុប្រធានវគ្គ		2:00pm	រសៀល
16	នុប ចិន្តា	ស	ប្រធានថ្នាក់ "ក"		2:00pm	
17	សឿន សុនីតា	ស	ប្រធានថ្នាក់ "ខ"		2:00pm	

ថ្ងៃ[illegible]... ខែ[illegible]ឆ្នាំថោះបញ្ចស័ក ព.ស ២៥៦៧
កំពង់ឆ្នាំងថ្ងៃទី..០៤...ខែ..សីហា...ឆ្នាំ ២០២៣
អ្នកស្នើរសុំ

ស្រី សុខវាសនា

បានឃើញ និងឯកភាព
នាយក

ហ៊ូ ភារិន្ទ

Appendix F: Pictures of Research Activity

Picture taken with the school director

Interviews with first and second vice directors

An interview with Class and Course Presidents

Interviews with administrators and technical supervisors

Comuter room and teaching activity

Kampong Chhnang Teacher Training Center (PTTC)

Researcher's Biography

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