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:

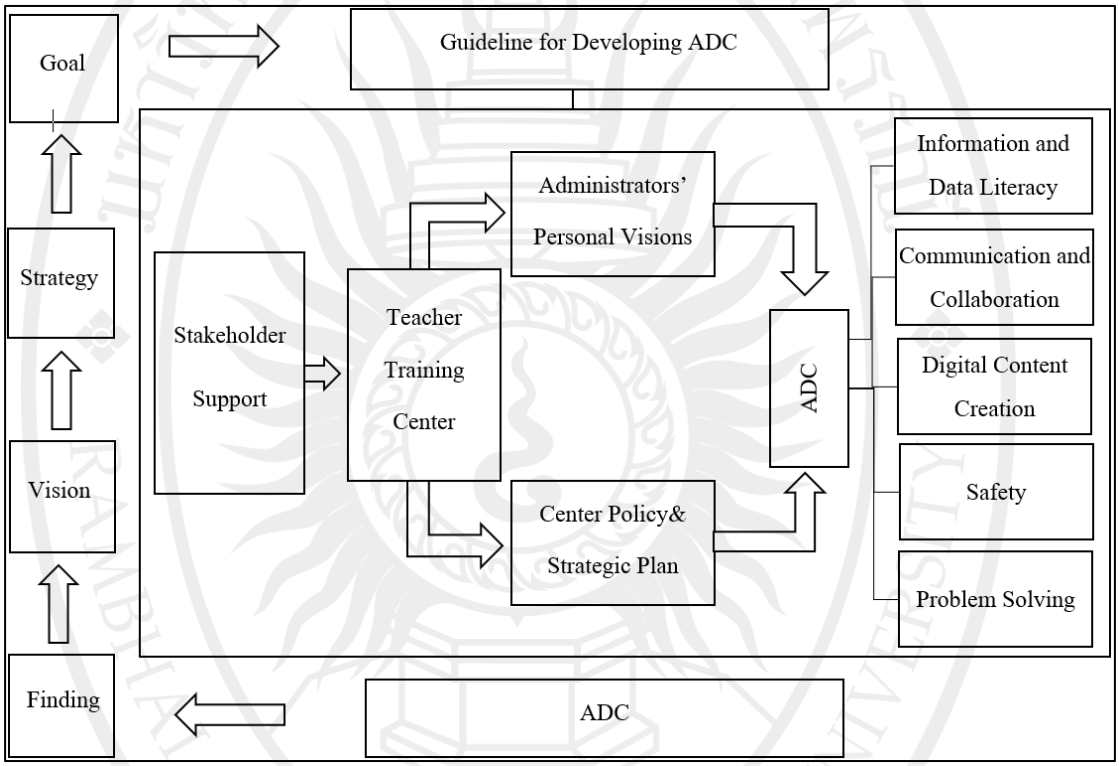

Figure 4 Procedure of Developing a Guideline

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.