

## Developing a Training Course to Reduce the Gap in Information and Digital Knowledge Access of Governmental Service: A Case Study of a Community in Satun Province

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### Abstract

**Purpose:** 1) To study the situation of information and digital knowledge access in governmental services, 2) to assess the needs for training, 3) to develop and evaluate the training course efficiency, and 4) to study the results of the use of the training course through a comparison of pre-and post-training achievements and the participants' satisfaction with the course.

**Methodology:** The research employed a mixed-method design, integrating a questionnaire, semi-structured interviews, a course efficiency evaluation form, pre- and post-tests, and an evaluation of trainees' satisfaction. The sample group, comprising 510 people in Muang and Manang Districts, was selected using the purposive sampling method. Data was collected from September to December 2021. The qualitative data was analyzed through content synthesis and categorization, while the quantitative data was statistically analyzed.

**Findings:** 1) The need for training among people was at a high level, based on their basic rights. However, the inaccessibility to governmental services was due to their lack of perception of public relations news. 2) The results of training and course efficiency showed an 80/80 efficiency rating in both districts, indicating the course's efficiency. Post-test scores in both districts were higher than pre-test scores, and participant satisfaction was found to be at the highest level.

**Applications of this study:** Could be applied in the training programs to develop skills and awareness for accessing information and digital knowledge related to basic rights in daily life, ultimately leading to more informed and thoughtful decision-making when using information and knowledge.

**Keywords:** Training course, Information and digital knowledge, Digital literacy, Skill, Understanding and use of digital technology

## 1. Introduction

Reducing social gap and building social opportunities in the access to governmental services are the principle policy to lessen the gap between the government and the people (Kongpradit, 2016). Digital exclusion and gaps in information access among people in Satun are the consequences of impact from the overall evolution of modern technology at 9.41% (Thai People Map and Analytics Platform, 2021). Wasri (2015) stated that conflicts in Thai society and the gap between the rich and the poor are caused by poverty and inequality in the use of resources, as well as the social structure, until it leads to contradiction and severity. There are 2 characteristics of communities in Satun, i.e., rural community and urban community, and a mixture of both. Kongpradit (2016), similarly found that the gap in information and digital knowledge access is the result of the existing different economic foundations. New technologies can be introduced to lessen the gap. Being cognizant with new media and efficient in the usage are particularly vital, for it leads to Digital Inclusion and additional precaution in communication. In addition, this finding corresponds to Sombatratananan (2009), who showed that a knowledge society having a digital technology infrastructure is able to benefit from dissemination and exchange of information; however, if information and knowledge access is not equal, social differences could result. This, in turn, leads to moral problems in the knowledge society in the context of social dynamics that holistically brings social impact (Rhee et al., 2010).

Digital technology is an important tool that enhances operational processes and assists in creating impartiality and equity in the access of different governmental services. Therefore, the governmental and international organizations are attempting to enable communities and people who lack the chance to reach information and knowledge to have the access to the information society. However, problems still exist. The important problem of knowledge-based society is the unequal access to information and digital knowledge that may be the gaps of an individual, income, and technological equipment (Hilbert, 2011). Additionally, digital technology is the connector (Chiriac, 2013) that can add values to information and knowledge. Powerful information and knowledge do not only bring great benefits, if a person lacks knowledge or necessary skill in access and evaluation of valuable information and knowledge.

Training in digital technology, information and digital literacy is important and should be urgently set as a social implementation plan to enhance knowledge and skills. Moreover, local organizations should be strengthened in this respect (Rivas, 2013). Ferreira et al. (2014) suggested that providing information and digital knowledge services for the community to perceive more information content necessitates exchanges of experiences in information and knowledge for increasing learning opportunities and contacts.

Revision of research studies related to training course development and access to information and digital knowledge both in Thailand and in the region showed that studies were conducted only on training in information and digital knowledge access related to politics in the eastern communities (Kongpradit, 2016), on the gap in information and knowledge access, and on perception and enhancement of reading behavior of youths in developing countries (Mimbi & Kyobe, 2016; Teimrad & Juntaramast, 2022). There was no study on research for developing a training course in information and digital knowledge access related to governmental services, which are immediate issues important for daily living, occupation and basic rights of people in the context of southern communities that is specific in terms of research area characteristics. Selection of research areas in this research thus referred to the statistics that show the gaps in information and digital knowledge access or digital limitations, from the database of target-based information management. Moreover, this research emphasized the study of the situation in information and digital knowledge access, the needs for training and study of the results of the training course through comparison of achievements before and after the training as well as participants' satisfaction. This could be different depending on the contexts of the area, attitudes, basic knowledge, problems and knowledge gaps that lead to extension of studies on the training course in information and digital knowledge access in different aspects or the contexts of other areas in Thailand.

Deploying the process of knowledge creation in the training course on information and digital knowledge access will enable people in the community with a big gap to have more access to information and digital knowledge related to services, notwithstanding the fact of missing digital technology infrastructure. However, people in the communities are attached to one another in the form of kinship, and they trust information and knowledge provided by individuals who are accepted and respected by the community. This can lead to participation in information and knowledge management and development of information systems of a locality (Kongpradit, 2016) through the use of digital technology. What is missing is a course that is an important tool for the community training.

Thus, from the causes and necessities discussed above, the researcher became interested to develop a training course that lessens the gap in information and digital knowledge access in governmental services, a case study of Satun province communities, where the gap exists in information and digital knowledge access with digital discrimination. The gap is derived from the overall distribution of modern technology, which was at 9.41%. The objectives were to study the situation in information and digital knowledge access and needs for training, develop and find the efficiency of a training course, study the results of the training course by comparison of pre-and post-achievements, and evaluate participants' satisfaction. It was expected that the research findings would offer useful knowledge in applying the training course in local governments and local educational offices such as the Center for Non-Conforming Education and Informal Education, the community learning center, Public libraries, etc. In addition, the research results could be applied in integrating collaboration with training organizations to develop skills, understanding, and basic use of information with caution and discretion, and without fast conclusions that cause disadvantages to others. We commenced by providing purpose in section 2, We provide literature review in section 3, and the methodology in section 4. It is followed by the provision of detailed research results in section 5, conclusion and discussion are described in section 6, and recommendation in section 7.

## **2. Purpose**

1) To study the situation of information and digital knowledge access in governmental services, a case study of Satun communities.

2) To study the need for training on information and digital knowledge access in governmental services, a case study of Satun communities.

3) To develop and find the efficiency of the training course that lessens the gap in information and digital knowledge access in governmental services, a case study of Satun communities.

4) To study the results of the use of the training course by comparing the pre- and post-achievements and satisfaction of the trainees.

### **3. Literature Review**

#### **3.1 Digital Citizenship**

Digital citizenship is a fundamental characteristic of being a citizen in the digital age, where technology plays a crucial role in daily life. Individuals must possess a diverse set of skills and knowledge to use the internet through various devices and communication channels (Sa-naguankaew, 2015). The use of these tools should benefit oneself, others, and society, while also respecting the rights and duties of others. Additionally, individuals should leverage technology to engage with both public and private sectors, fostering positive and meaningful changes. Vilamas (2020) described digital citizenship as the habits, actions, and consumption of digital content, as well as living in digital communities with quality. It involves using technology normatively and appropriately, being responsible for one's actions, knowing right from wrong, and using it safely to produce positive outcomes. This aligns with Ribble & Bailey (2007), who stated that digital citizens are those who can study and access digital information, be technologically literate, understand their rights and respect the rights of others, have etiquette in communication, respect laws, use technology without impacting physical and mental health, create and share beneficial content (Ribble, 2015), and prevent digital threats. UNESCO (2016) also highlighted that digital citizens should be able to search for, access, use, and create information effectively, connect with other users and content fluently, critically, sensitively, and ethically, and manage the digital environment safely.

Moreover, White, Ragkhanto, & Srikrueadong (2021) stated that digital citizens are smart users of digital media and social networks who understand the norms of appropriate behavior, are responsible for their use of technology (Mossberger, 2008), and understand the diverse nature of global communication, including race, age, language, and culture. They must also empathize with others. Generally, digital citizenship encompasses three key characteristics (White, Ragkhanto, & Srikrueadong, 2021)

1) Digital Responsibility: Knowing and adhering to accepted online behavior, having manners, respecting others, not creating or spreading information that could disrupt or harm society legally and ethically, selecting and filtering beneficial information, and being aware of dangers such as commercial exploitation, gambling, and identity theft.

2) Digital Creativity: Utilizing technology and digital tools for personal and community benefit, creating digital knowledge sources that disseminate knowledge to society, and using creativity to generate economic value.

3) Digital Entrepreneurship: Leveraging digital technology to create value and benefits for oneself and society, such as creating innovations and new technologies for better digital services, creating jobs, and generating income through digital platforms.

In summary, digital citizens must possess digital intelligence, known as "Digital Literacy," which includes the ability to benefit from cyber information, know how to protect themselves from online risks, understand their rights, responsibilities, and ethics in the digital age, and use the internet creatively for political, economic, social, and cultural participation. They should interact with others using digital tools responsibly, be aware of safety, understand and respect social rules and legal rights, and maintain ethical conduct without negatively impacting themselves or others.

### **3.2 Digital Technology Training**

Wang & Rodriguez (2013) stated that empowering citizens requires them to take proactive roles in participation, utilizing two fundamental capacities: information access and coordination and communication. Additionally, they found that digital technology is a crucial tool for enhancing and increasing citizen participation. Lor & Britz (2007) noted that digital technology can support transparency in organizational management and also play a significant role in creating public spaces and atmospheres for civil society, enabling freedom of information access, expression, and participation in the digital economy. Digital technology training must focus on urgent social and cultural practices that promote full community and institutional participation. Planners must design digital projects that lead to diverse media and expand digital literacy (Bach, Shaffer, & Wolfson, 2013). Wong et al. (2009) found that computer and internet use promotes digital participation, especially among disadvantaged and marginalized groups, helping to reduce exclusion due to limited knowledge. Therefore, training programs on digital technology use, including computers and the internet, are essential for promoting digital participation and empowering disadvantaged individuals. Additionally, digital technology training should focus on urgent social and cultural practices that promote community and institutional participation. Planners must design digital projects that lead to diverse media and expand digital literacy (Wolfson, 2013). Furthermore, studies on internet access for disadvantaged individuals, focusing on education and training, community and culture, citizenship and democracy, health and well-being, equality and economic opportunities, and information and communication, found that digital technology use can help reduce the gap in access to information and digital knowledge. Moreover, it can help trainees learn new things effectively (Leo & Caroleo, 2011).

Digital technology training needs to take into account the trends and evolution of rapidly changing technologies. The training content should focus on knowledge and skills that can be used to solve problems. The curriculum used in training should include: first, digital literacy, which involves the use of tools and skills to evaluate the value of information for decision-making or for beneficial use by humans; second, professional capacity building, which focuses on the use of digital technology appropriate for different age groups and social contexts, such as using social networks for communication, accessing relevant content, entertainment and electronic services, and exchanging information to increase opportunities for contact (Ferreira et al., 2014).

In summary, digital technology training helps create opportunities for using technology for communication, accessing information and knowledge, and fostering grassroots participation. It integrates socio-economic development with human values and utility. However, it also creates disparities in access to information and digital knowledge for disadvantaged individuals. Therefore, curriculum design must consider individual characteristics and spatial contexts. The training process should involve local government institutions as drivers to promote digital participation, leading to community and societal engagement.

#### **4. Methodology**

The research and development method was used in this research with theoretical-based systematic implementation, the details of which are as follows:

##### **4.1 Scope of research**

1) Research Site: consisted of 2 communities with the greatest gaps, namely a community in Manang District, Satun (a rural community) and a community in Muang District, Satun (an urban community). The research site characteristics were classified into an urban society and a rural society in accordance with the concept of Dewey (Rural-urban continuum model by Dewey) (Abrahamson, 1980). The classification criteria of Dewey relied on the population size, the density and population proportion, site boundaries (the part outside and urban or municipal area), economic factor (cost of living and income), occupation and cultural changes. The purposive sampling method was applied to obtain the sample communities. The people's access to, and receiving governmental services were emphasized.

2) Training and Pilot Study: The number of participants from each community was not lower than 30.

3) Criteria for the Community: The researcher used the approach of Bach et al., (2013); Armenta et al., (2011); Agnew & Ripper (2011), as follows: (1) There is an official unit that serves and supports the community, e.g., Sub-district local administrative organization or a school, or a local volunteer who possesses basic technological skill, (2) There is the basic digital technological infrastructure, (3) There is a wireless communication network, and (4) The community takes part in the area activities such as joining meetings and training at the community level.

4) Timing: The researcher planned the data collection period from September until December 2021, totaling 4 months.

#### **4.2 Population and sample group**

1) The population was the population in Satun province aged 20 to 59 years.

2) The sample group was obtained by the purposive sampling method, and 2 communities where the gaps were greatest were selected: a community in Manang District (a rural community) and a community in Muang District, Satun (an urban community). The inclusive criteria included: readiness in technology such as smart phone, I-pad, etc. and each participant's consent to join the research project. The total number of participants was 510.

#### **4.3 Research tools**

##### **4.3.1 The qualitative research**

1) Semi-structured interview issues including: personal information, the opinion towards the problem in information and digital knowledge access, level of knowledge related to technological tools, knowledge related to governmental services (answers to objective 1).

2) Semi-structured interview issue in the needs for training in information and digital knowledge access including: importance and necessity in access to information, knowledge and services of people in Satun, factors leading to gaps in information and digital knowledge access, and the needs for a training course (answers to objective 2).

##### **4.3.2 The quantitative research**

1) A set of questionnaire for studying the situation of information and digital knowledge access, constructed by the researcher, including 2 parts of 35 questions. Part one was for baseline data: gender, age, religion, education level, income, family status. Six questions were in the form of selected response. Part 2 included 29 questions about the situation in information and digital knowledge access in the form of 5 rating scales (Srisa-Art, 2002) (answers to objective 1).

2) A set of questionnaire for studying the need for training in information and digital knowledge access, constructed by the researcher, including 2 parts of 56 questions. Part one was for baseline data: gender, age, religion, education level, income, family status. Five questions were in the form of selected response. Part 2 included 51 questions on the need for training in information and digital knowledge access in the form of 5 rating scales (answers to objective 2).

3) An evaluation form for the efficiency of the training course in information and digital knowledge access, constructed by the researcher, including 3 parts of 20 questions. Part 1 comprised 11 questions on the components of the training course, evaluating the structure of the course, in the form of 3 rating scales (Srisathidnarakul, 2002). Part 2 comprised 8 questions on the management of the training course, evaluating the learning units of the training and knowledge management plans, in the form of 3 rating scales. Part 3 was one question on the overall conclusion of the development of the training course in the form of selected response (answers to objective 3).

4) A test constructed by the researcher to study the outcomes of the pilot training course by comparing the achievements before and after the training, including 20 four-choice questions (answers to objective 4).

5) A satisfaction evaluation form towards the training course in information and digital knowledge access, constructed by the researcher, containing 2 parts of 37 questions. Part one was on baseline data: gender, age, religion, education level, income, and family. Six questions were in the form of selected response. Part 2, consisting of 31 questions, was on the satisfaction towards the training course in information and digital knowledge access in the form of 5 rating scales (answers to objective 4).

#### **4.3.3 Construction and quality validation of research tools, following steps were conducted to validate the quality of the research tools**

1) The research tools were validated by 5 experts for their reliability and accuracy, and the content and language were checked for content validity. Next, the index of item objective congruence (IOC) and specific definitions of terms were checked. The IOCs of most questions were from 0.6 to 1, showing that they passed the set criteria. The researcher then improved and adjusted the tools according to the experts' suggestions.

2) The research tools were tried out with 30 people in Pattani province whose characteristics were similar or close to the sample group and who represented both an urban community and a rural community. Next, the tools were analyzed to find the

reliability values according to Cronbach's method by finding the Alfa coefficient ( $\alpha$ -coefficient). The results showed that the overall reliability values of the following tools were as follows: (1) the questionnaire for studying information and digital knowledge access was 0.88, (2) the questionnaire for studying need for training in information and digital knowledge access was 0.98, (3) the evaluation form for the efficiency of the training course in information and digital knowledge access was 0.76, (4) the test for comparing the achievements before and after the training was 0.84, and (5) the evaluation of the satisfaction of participants towards the training in information and digital knowledge access was 0.86.

For the semi-structured interview, the researcher improved the questions to make them clearer, easy to understand, accurate, and appropriate, as well as correspond to the research objectives, as suggested by the experts.

#### **4.4 Data Collection**

Data was collected by the researcher and the volunteers in the communities. The letter of consent to participate in the Project of the Faculty of Humanities and Social Sciences, Prince of Songkla University, was attached with the research tools. Data collection was conducted from September until December, a period of 4 months. The data collected were classified in accordance with the research tools as follows:

##### **4.4.1 The semi-structured interview**

The semi-structured interview for studying the problems in information and digital knowledge access, status, and the knowledge level related to technological technologies and governmental services (answers to objective 1), and (2) the semi-structured interview for studying the needs for training in information and digital knowledge access (answers to objective 2) were carried out with 40 participants of the target group. One hundred percent of the in-depth interviewing results were returned.

##### **4.4.2 The questionnaire**

The questionnaire for studying the situation in information and digital knowledge access (answers to objective 1) and the questionnaire for studying the needs for training in information and digital knowledge access (answers to objective 2) were carried out from 405 participants in the sample group, all of whom returned the questionnaire (100%).

##### **4.4.3 The evaluation**

The evaluation for the efficiency of the training course in information and digital knowledge access (answers to objective 3), validated by 5 experts, was administered. 100% of the forms were returned.

#### 4.4.4 The test for comparing the achievements.

The test for comparing the achievements of the participants before and after the training course (answers to objective 4) and the evaluation for satisfaction of the trainees towards the training in information and digital knowledge access was carried out with 60 participants, and all (100%) returned the test and the satisfaction evaluation form.

### 4.5 Data Analyses

Data analyses were performed separately according to the research tools, as follows:

#### 4.5.1 The semi-structured interview

The semi-structured interview for studying the problems in information and digital knowledge access, status, and the knowledge level related to technological technologies and governmental services, was analyzed by means of content synthesis of the principle and supplementary concepts based on the classification approach. The characteristics of data were identified in relation to the categories and issues.

#### 4.5.2 The questionnaire

The questionnaire for studying the situation in information and digital knowledge access, the questionnaire for studying the needs for training in information and digital knowledge access, the evaluation form for comparing the achievements of the participants before and after the training course, and the form of satisfaction evaluation of the trainees were analyzed statistically to find the frequency distribution, percentages, mathematics means ( $\bar{X}$ ), standard deviations (S.D.), T-Scores and Z-Scores.

### 4.6 Human Research Ethics

This research project has been approved by the Human Research Ethics Committee, Prince of Songkla University, the research project code: psu.pn.2-057/64 was approved on July 6, 2021.

## 5. Research results

The research results can be presented in accordance with the research objectives as follows:

### 5.1 Situation in information and digital knowledge access of the governmental services.

5.1.1 The results of the study based on in-depth interview showed that most had problems in the access to signals, networks and management of community leaders.

This can be classified into the following 4 principle issues:

1) The problems in management of information technology of the community – Muang district, Satun, is an area with good access to network signals, for it is an urban society having information services that cover the area, with both the telephone signal and internet signal. However, the access is not adequate as some people do not have electronics equipment for reaching general information and information of the government. Manang District is a mountainous area and a high plain. Therefore, access to signals does not cover all areas. In addition, some people have no relevant equipment; therefore, some people in Manang District have less access to information and governmental services related to digital technology.

Nevertheless, there is one common issue under the context of both of the studied districts in Satun, which could form a gap in information perception, i.e., shortage of necessary technological device that provides accessibility and retrieval of government-related information and other information related to daily life. Besides, there is the factor of lack of perception of information from public relations such as the restriction of village public relations system, restriction of mobile public announcement. These lead to inaccessibility to information and hence governmental services. Age level is another factor resulting in unequal information perception. Public relations among the elderly living on their own is the duty of village health volunteers, for the elderly in general are not good at using technological devices and need assistance from their children.

2) Support from community leaders and official organizations – governmental and community organizations were found to have adjusted themselves in terms of accessing tools such as public relations of news or information of the community and the government through new communication channels such as line application or various online networks. Prior to the Covid-19 pandemic, these networks were used for making appointments and for sending information. However, some community people were not able to use the devices and could not have full access to news. With the Covid-19 situation, people became more interested in the access to information through online social network or new communications devices, including online groups of village health volunteers, the community learning center, etc. These online groups have been operating for a long time for rapidly public relating information. In addition, the communities also support access to other public relations media that are not related to multi-media such as the village public relations billboard, public loud-speaker announcement system, mobile public announcement system, and visits made

by the village health volunteer to each household. however, community leaders or administrators must screen the news form different channels for safety of the people.

### 5.1.2 Research results from questionnaire information

1) The overall situation of information and digital knowledge access to governmental services was at a medium level ( $\bar{x} = 3.17$ ). When considering each aspect, all items were rated at a medium level. The problem related to knowledge, understanding and skills showed the highest average ( $\bar{x} = 3.28$ ), followed by the problem about the community's management of information technology ( $\bar{x} = 3.21$ ), and the problem related to official and officers' organizational management ( $\bar{x} = 3.02$ ).

## 5.2 Needs for training in information and digital knowledge access to the governmental services

### 5.2.1 Research results from in-depth interview – can be presented as follows:

1) The importance and necessity in access of information, knowledge and services of people in Satun province – Two issues could be concluded. The first is information access, which is the important issue affecting the community people, for the level of information perception of the community is directly associated with the social status of the people. Lack of information perception in the village may lead to loss of certain important rights, or an important opportunity in life. The second is the importance of knowledge access of the people, which is highly significant, especially when there is an emergently unexpected and unwanted situation such as Covid-19 pandemic. Thus, it is very important to possess the knowledge when facing the problem in order to be able to take care of oneself. It was found that the people still lacked the channel to reach the knowledge related to self-care and lack the knowledge related to their rights and welfare. It can be seen that such knowledge is vital and very necessary for people's daily living. Therefore, support should be provided in terms of knowledge and the accessible channel to the knowledge.

2) There were four factors causing gaps or inequity of knowledge in information and digital knowledge access: The first is the family characteristics, the key basis causing inequality. In the community, there are different types of families. The family with good economic status has more access than the underprivileged families. The second is education – educational level is an important issue enabling learning and access as well as a network and people's cognizance of new technologies. Nowadays, there are online services that provide information, not only about governmental services, but also availability of online financial transaction, which are part of the modern technology. The communities in Satun still

lack knowledge in this respect. Unequal education leads to gaps in access of information, knowledge and governmental services. The third is the network signals; lack of coverage and internet signal lost in some areas affect the daily living of people in the community. They are not able to communicate when in need for assistance. The last factor is the community leader, an issue related to social and political aspects. It was found that the policy does not correspond to the real practice. Politicians or community leaders did not see the importance in community management, the fact leading to inequality.

### 5.2.2 Research results from questionnaire information

1) The overall needs for training in information and digital knowledge access are at the medium level ( $\bar{x}$  = 3.25). When considering each aspect, it was found that the needs for information was at the high level ( $\bar{x}$  = 3.54), and the knowledge and information access experiences of the community were at the medium levels ( $\bar{x}$  = 3.28 and 3.18, respectively)

### 5.3 Development and efficiency of the training course to lessen gaps in information and digital knowledge access of governmental services.

The results of the study of the situation of information and digital knowledge access and needs for training in information and digital knowledge access was used as the baseline data for development and design of the content of the training courses and as the revision of related concepts and theories. The findings led to development of the training in digital literacy workshops, comprising 5 courses, namely, Course A: Digital technology and new media devices for communication, Course B: Information and knowledge access by categories, characteristics and forms, Course C: Building and design of virtual and real societies, Course D: Information and digital knowledge management in occupation, local wisdoms, health, education, governmental services and public utilities, and Course E: Law and digital ethics the results of the efficiency analysis of the training courses as evaluated by the experts are as follows:

1) The components and structure of the training course were found to be complete, accurate, and appropriate for training the people in Satun province.

2) The learning management plan was written completely and included the important and relevant components. There was the incorporation of suitable digital technology in the training activities that corresponded to skill development and enhancement of important skills for trainees to become digital citizens (3Rs x8Cs x2Ls).

#### 5.4 Results of the use of the training course by comparing the achievements pre- and post-training and satisfaction of the trainees.

1) The efficiency of innovations of the training workshop conducted with the sample group showed that the efficiency,  $E_1/E_2$  of the trainees at Muang district were 80.14/81.30, and those of Manang trainees were 80.38/80.90, which were higher than the criteria set at 80/80. This showed the efficiency of the training course innovations and that the course can be used for training.

2) Comparison of achievements before and after training showed that the pre-test T-Score of Muang District trainees was 43.16, and their post-test T-Score was 59.59, or an increase of 38.06. The pre-test T-Score of Manang District trainees was 42.77, and the post-test T-Score was 58.54, an increase of 36.86%.

3) The overall satisfaction of the trainees towards the training was at the highest level ( $\bar{x} = 4.51$ ). When considering item by item, the trainer was found to have the highest average score ( $\bar{x} = 4.55$ ), followed by the course content ( $\bar{x} = 3.21$ ), the venue and length of training course ( $\bar{x} = 4.47$ ).

## 6. Conclusion and Discussion

### 6.1 Situation of information and digital knowledge access of the governmental services.

The important factor preventing access to governmental services was the fact that most of the population did not perceive news from public relations. Besides, it was found that the people in the research sites could be classified into two groups of age ranges, i.e., the elderly group and the youth group. This resulted in different experiences in the use of technological tools to access information and knowledge, which could depend on the skills and earnings. This agrees with Teimrad & Juntaramast (2009), who stated that the public had different chances to access knowledge with information technology and had different skills in the use of information technology, depending on the needs, economic and social status, which comprise knowledge divide. Knowledge divide, in turn, raises inequality during the accessibility and inaccessibility to information and knowledge due to the factors related to the inaccurate use of information technology, various learning sources, and lack of interest to learn. The infrastructures such as digital technology equipment and tools, the network and communication system, and the factors related to the governmental policy in national development also led to knowledge divide (Teimrad & Juntaramast, 2022).

When considering the situation in information and digital knowledge access of governmental services, it was found that the people had knowledge, understanding and skill at the highest level, especially the knowledge, understanding, and use of digital technology of people in the community and the knowledge, understanding, and the use of digital technology of community leaders. It is seen necessary for community leaders to possess the skill and understand the access of information and service of governmental services at the highest level because the community leader has to be a mediator who communicates news, information and knowledge between the government and different groups of people. This even leads to a high degree of needs for skill of community leaders in perceiving news from the government and conveying it to the people. The skill in screening the news is specifically required to prevent conveyance of fake news to the people. Therefore, knowledge, understanding, and the use of digital technology of community leaders are important and necessary for the population. This agrees with Nualnang (2020), who said that the lack of digital technology skill of community leaders can lead to problems such as shortage of awareness related to basic rights and laws. Acquisition of knowledge in this respect is important and compels community leaders to possess knowledge, understanding and competence in digital literacy so that they could pay close attention to, caution, and follow-up the news and movement of the community to protect against cyber dangers and build immunity for the people against these dangers (Phukamchanoad, 2021). In addition, knowledge can be transferred, and the problems faced by the community can be solved. In terms of the situation of the problem in management of organizations and governmental officers, the average was the lowest, particularly in providing services and public announcement system. This could arise from the change in the form of news, information and knowledge conveyed to people through digital or online media that replaced the former public announcement system, without evaluating the readiness of the people, possibly leading to change of access to information or knowledge. This finding corresponds to Madanmohan (2012) who stated that the process in communicating information or knowledge with the greatest efficiency necessitates characteristics, process, and tools of news receivers so that the perception of information would be sustainable. Besides, community leaders require strategy and skill in communication to build an appropriate perception of the community and the people in the area (Jonboonreang, 2020).

## **6.2 Needs for training in information and digital literacy access of the governmental service.**

Most of the population are facing the problem in information and digital literacy access, possibly from the shortage of skill in the use of technology to access basic knowledge such as rights, welfare, compensations from various conditions, etc. This leads to the shortage of basic knowledge and may lead to disadvantages in one's rights and benefits. In addition, the study showed that all of the people in the area need knowledge and skill in access of information and digital knowledge in order to protect against their one basic rights. People require necessary information and knowledge access for the daily living, the fact agreeable with Kongpradit (2016), who mentioned that training of information technology and communication are important and urgent as a social agenda, for Information technology is related to and connects with various forms of access to information and knowledge provided by the government; in this regard, technology is also a connector (Chiriac, 2013). Moreover, the additional information in the questionnaire showed that the people in the area needs knowledge necessary for their daily living and for the information related to their own community. This showed that the people are interested in perceiving news of the government. The training course developed thus truly responds to the requirements of the people. Therefore, the problem would urge people's need for training in skill, knowledge and understanding of the use of digital technology to lessen the gap in access to information and knowledge and lead to possession of more necessary information skills.

## **6.3 Development and efficiency of the training course to lessen gaps in information and digital knowledge access of governmental services.**

The analysis of the training course efficiency in terms of structure showed its completeness, accuracy and appropriateness for training, and its association with the research project and skills of the 21st century. This agrees with the opinions related to course development and approaches in the use of information technology and communication that enhances knowledge and transparency in access to democratic literacy. Such a course can be developed by building a common learning space. In addition, this course was designed based on the activity and experience curriculum for the people in the community, following the approach of Taba (1962) (Taba's Model), in which needs analysis, objective setting, content selection, content compilation, selection of learning experiences, organizing learning experiences and setting items to evaluate and the evaluation method have been

incorporated. Therefore, the evaluation of the efficiency of the training course was appropriate and could be used for training.

The evaluation of participants' overall satisfaction with the training course was at the highest level. When considering each item individually, it was found that the trainer received the highest average score, particularly for encouraging trainees to use the knowledge gained to develop their information literacy skills and analytical thinking processes. This may be attributed to the trainer being a principal personnel and a key figure in leading the activities during the training. If the trainer fulfills his duties attentively, recognizes the importance of the training, provides opportunities for trainees to ask questions, engages the trainees' interest, and, most importantly, possesses knowledge and expertise in the topic, then the training atmosphere will likely proceed smoothly. This aligns with the study by Nualnang (2020), which indicated that trainers significantly influence participants' satisfaction and knowledge acquisition. A trainer who is an expert in new media or is familiar with it, combined with experience in information access and skills in using information technology and infrastructure, can enhance the reliability perceived by participants. Additionally, Verdegem & Fuchs (2013) noted that allowing trainees to participate in activities or real practices promotes the exchange and sharing of experiences and knowledge, thereby fostering a sustainable community learning environment.

#### **6.4 Results of the use of the training course by comparing the achievements pre- and post-training and satisfaction of the trainees.**

The average achievements after the training of the course of the participants in Muang and Manang Districts were higher, as the participants of the two research sites knew and understood more on information access and digital knowledge of the governmental services. The higher achievement from the training indicated the efficiency of the training course and workshop, and developed skills in understanding and use of digital technology. This finding agrees with the study by Figueiredo & Kramer (2012), which stated that the widespread of digital technology helps removing knowledge gaps and equality in access to welfare, and benefits and open a learning society of a person in digital literacy and professional competency of individual groups (Kongpradit, 2016; Pantzar, 2000) for preparation to step forward towards a digital society and potential digital citizens.

## **7. Recommendations**

### **7.1 Policy Recommendations**

Relevant organizations such as the public library, community learning centers, the Office of Non-conforming and Informal Education, including local leaders, should collaborate to integrate efforts, support learning processes, and jointly analyze the problems and needs for knowledge that foster lifelong learning in the community. Examples include training in information and digital literacy skills and understanding basic rights and welfare, and designing information related to government services that accommodate physical limitations such as language and alphabets. Additionally, these organizations and personnel may need to participate in evaluating skills and information perception to help individuals become digital citizens. In addition, the researcher can provide recommendations connected to the local context as follows:

1) The majority of people in Satun province still access information in traditional ways, such as village notice boards, public announcements via loudspeakers, mobile announcements by agencies, and home visits by village health volunteers. Therefore, traditional public announcement methods remain necessary and are still needed by the local people for receiving information and government news. Consequently, community leaders and government agencies need to adapt their methods, processes, channels, and tools, and develop infrastructure that aligns with the needs of the people. Moreover, the information presented must be verified and deemed accurate, complete, and reliable by the relevant authorities before being disseminated to the public. Additionally, those presenting the information must be knowledgeable about the content they share to ensure it is accurate, reliable, and can be effectively utilized in daily decision-making.

2) The majority of the population expects community leaders to support access to information and knowledge and use technology tools to communicate information and news. Therefore, community leaders must adapt and expand their roles, not only as social leaders but also as leaders in rights and welfare. They must play a crucial role in screening and verifying information for the community, ensuring that public announcements are free of fake news. Community leaders must filter news from various channels to provide safer information to the community. Furthermore, contemporary community leaders must be highly skilled and knowledgeable in accessing government service information to act as intermediaries in communicating information, news, and knowledge between the government and the people. Thus, community leaders are seen as frontline workers responsible for filtering

and preventing the spread of fake news, using fundamental knowledge to protect the community from misinformation.

## 7.2 Recommendations for Future Research

Future research can be expanded or developed by broadening the scope of content, concepts, theories, or research areas. This includes adding details to the curriculum to ensure it is up-to-date and keeps pace with changes in digital technology knowledge and tools. It also involves designing and developing curricula based on the context of Southern provinces, making them interesting and relevant to a multicultural society or lifelong learning strategies and digital citizenship. Furthermore, addressing problems, obstacles, and needs regarding access to digital information and knowledge from the government, and basic constitutional rights, can enhance the value of training programs by applying them to local educational agencies such as non-formal and informal education centers, community learning centers, and public libraries. Additionally, these can be applied to other training agencies as well.

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