



A Study of Enhancing Needs Assessment for Student Digital Literacy for Primary School under the Office of Basic Education Commission

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1Apirat Jorjong and 2*Suwat Julsuwan

¹Doctor of Education Candidate in Educational Administration and Development, Faculty of Education, Mahasarakham University, Thailand

²Faculty of Education, Mahasarakham University, Thailand

1 E-mail: api.2522@hotmail.com and 2*corresponding author e-mail: suwat.29012505@gmail.com

Abstract

Effective digital skills are essential for teachers with a focus on enabling students to think critically, creatively, and responsibly for the use of digital technology inside and outside the classroom. As an instructor, it is necessary to create more content in other media as a channel to help students understand and solve problems. Therefore, this research aimed to (1) studies the components of digital literacy for primary school teachers under the Office of the Basic Education Commission. (2) study the current state and the desirable state of digital literacy among primary school teachers under the Office of the Basic Education Commission. (3) study the necessary needs for enhancing digital literacy among primary school teachers under the Office of the Basic Education Commission. The group of informants in the research were: directors of educational institutes and primary school teachers under the Office of the Basic Education Commission, 748 people. The tools used in the research include the questionnaire on the current state and the desirable state of digital literacy among elementary school teachers under the Office of the Basic Education Commission. The data were analyzed using basic statistics such as mean, percentage, standard deviation, and Modified Priority Needs Index (PNI Modified). The finding found that;

1. The digital literacy component of primary school teachers under the Office of the Basic Education Commission in all aspects was at a high level, the averages are sorted from highest to lowest. Digital content search (locate) averaged 3.84 (S.D. of 0.78), Digital communication (communicate) averaged 3.72 (S.D. of 0.85), and creative digital media (Create) averaged 3.52 (S.D. is 0.91).

2. The desirable condition of digital literacy among primary school teachers under the Office of the Basic Education Commission in all aspects was at the highest level, the averages are sorted from highest to lowest. Digital communication (communicate) averaged 4.85 (S.D. of 0.89), Digital Content Search (locate) averaged 4.73 (S.D. of 0.84), and creative digital media (Create) averaged 4.58 (S.D. is 0.95).

3. The need for digital literacy among elementary school teachers under the Office of the Basic Education Commission is determined by the Modified Priority Needs Index (PNI Modified) The digital literacy of primary school teachers under the Office of the Basic Education Commission found that the priorities of the needs and needs of the current state and the desirable conditions of digital literacy of teachers were as follows: The first: Creative Digital Media (Create) (PNI Modified=0.1741), the second: Communication using digital (communicate)(PNI Modified=0.1159), And the third: digital content search (locate) (PNI Modified=0.0742).

Keywords: Current State Study, Desirable State, Digital Literacy.

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1.Introduction

At present, Thailand is very alert and attaches great importance to information, communication, and digital technology, as can be seen from the government's policy-making in the 20-year national strategy (2017-2036). In Strategy 3, Strategies for Developing and Empowering Human Resources to become people with the core foundation of 21st Century skills and Digital Literacy including programming skills with IQ-EQ-MQ (Intelligence Quotient-Emotional Quotient-Moral Quotient). In addition, in the Digital Economy and Society Development Plan, the Ministry of Digital Economy and Society has been assigned as the main unit in driving the Digital Development Plan for Economy and Society, including organizing Make an action plan to drive the development of a strategy with relevant agencies for sustainable national development by using digital technology. The strategy of the digital development plan for the economy and society, which is the development of manpower. Ready to enter the digital economy and society, create people, create jobs, build strength from within (Ministry of Information and Communication Technology, 2016; ILDC Thailand, 2017).

Digital literacy comes from the English word "Digital literacy"(Newman.2012:Online), One of the American Libraries Association's working groups and the initiator of the Digital Literacy Campaign describes digital literacy as: "The ability of both the awareness and the technical skills to use various information and communication technologies to discover, evaluate, create and communicate information as needed". Previously, the government, educational institutions, and library organizations had promoted information literacy needs to be adjusted to focus on promoting digital literacy skills in line with the changing information technology and digital information usage habits of people and organizations today. On the international

level, developed countries are aware of the importance and want to develop people to be knowledgeable.

Digital literate people, American Library Association (2513: Online) In addition to defining digital literacy that is clear and suitable for the learning conditions of today's society And to create mutual understanding among the librarians of different types of libraries, it has also been set as a public policy to use.

Guidelines in practice to campaign to promote this skill to the people of the whole country which internationally, apart from the United States, other developed countries such as Australia, United Kingdom, Republic of Ireland, New Zealand, etc., are aware of the importance and want to develop people to be Digital literate people by campaigning and creating digital literacy standards to serve as a guideline for developing this skill for children and youth in educational institutions at all levels (Australian Communications and Media Authority. 2009).

Effective digital skills are essential for teachers with a focus on enabling students to think critically, creatively, and responsibly for the use of digital technology inside and outside the classroom (White, 2015). As an instructor, it is necessary to create more content in other media as a channel to help students understand and solve problems as well. Because digital native learners are even able to source their knowledge from various online media, But still can't distinguish between good and bad content, especially in the online world where content is presented quickly but of low quality, lack of pre-release content evaluation, Teachers need to create more accurate information resources through digital media and social media for the benefit of learners to understand and review to apply solutions for shaping their future students. Yoany (2006) said that teachers can use modern information



technology to create collaborative learning among students, by integrating a form of collaborative learning into the course curriculum by encouraging collaborative learning through the online world, this causes the exchange of ideas, and teachers will have to create interactions in learning with the learners thoroughly.

The results of the study of the Electronic Transactions Development Agency (Public Organization) conducted a study on the behavior of using the Internet, which is part of digital technology, asked 25,101 voluntary people with an online questionnaire. The top five activities that are popular for using the Internet are Social network use 86.9%, information browsing 86.5%, electronic mail sending and receiving 70.5%, video clip viewing 60.7, and buying and selling products online and paying for services electronically 50.8%. (Electronic Transactions Development Agency (Public Organization), 2016) The results of the study show that the competence in digital technology for Thai people still needs to be developed, due to incomplete and inefficient use and access, and it is not worth investing in value creation or use in digital technology. The results of research by Akarawang, C. found that more than 40 percent of teachers cannot still use technology, especially teachers over 50. Despite the school providing computers for teaching activities, and operating with the Internet system. Those teachers reasoned that inactivity was difficult, did not want to learn, and therefore could not use technology in teaching. Teachers in their youth have a good level of information technology and communication skills, which can be used in teaching and learning (Akarawang, C., 2015).

Effective digital skills are essential for teachers with a focus on enabling students to think critically, creatively, and responsibly for the use of digital technology inside and outside the classroom (White, 2015). As an instructor,

it is necessary to create more content in other media as a channel to help students understand and solve problems as well. Because digital native learners, although able to source their knowledge from online media, are still unable to differentiate between good and bad content. Especially in the online world where content is presented quickly, but of low quality, and lacks pre-release evaluation. Teachers need to create more accurate sources of information through digital media and social media for the benefit of learners to understand and review and apply to solve problems. For shaping the future of learners, Yoany (2006) said that teachers can use modern information technology to create collaborative learning between learners, by integrating a form of collaborative learning into the course of study. Encouraging collaborative learning through the online world to exchange ideas and teachers will create interactions in learning with the learners thoroughly.

From the reasons and importance of digital literacy, which is one of the most essential skills for teachers to organize teaching activities for students. Therefore, the researcher saw the importance and necessity, therefore studied the current state and the needs of digital literacy teachers under the Office of the Basic Education Commission. It is then used to assess the need for digital literacy in the Need Assessment. An assessment process to differentiate current and ideal conditions by which needs assessment is necessary to provide information that leads to constructive change. In addition, the researchers will use it as important information for the drafting of a digital literacy teacher development program for elementary school teachers under the Office of the Basic Education Commission.

2. Objectives

1. To study the digital literacy components of primary school teachers under the Office of the Basic Education Commission.

2. To study the current state and the desirable state of digital literacy among elementary school teachers under the Office of the Basic Education Commission.

3. To study the necessity of enhancing digital literacy among primary school teachers under the Office of the Basic Education Commission.

Research Scope

1. Content Scope

This research is the study of digital literacy concepts by analyzing and synthesizing digital literacy concepts to synthesize components and indicators and study the current and desirable conditions of digital literacy among primary school teachers under the Office of the Basic Education Commission. Then analyze the need for PNI Modified Digital Literacy of Elementary School Teachers under the Office of the Basic Education Commission. The content composition by the researcher was synthesized from the concept of Office of Higher Secondary Education (2010); Jongsermtrakoon, S. (2013); American Library Association (2013); UNESCO (2011); Cartelli (2010); Institute of Professional Qualifications (2017); and Organization for Economic Co-operation and Development - OECD (2013) as follows;

1. Digital content search (locate) consist of;

- (1) Teachers can search for information to create learning materials to achieve the objectives set by the curriculum.
- (2) Teachers assess the appropriateness and correctness of digital information and content for use in learning activities appropriately.
- (3) Teachers can manage digital information and content that is appropriate for the context of the students for whom they are responsible and can make lessons interesting.
- (4) Teachers can identify digital learning resources both domestically and internationally for use in organizing learning activities for students.
- (5) Teachers can identify ways to access digital learning resources so that students can continue to learn from classroom activities.

2. Digital communication (communicate) consists of;

- (1) Teachers can interact with students through digital technology to carry out learning activities as specified by the curriculum.
- (2) Teachers have the skills to share teaching materials through digital technology to create a learning community.
- (3) Teachers with skills to participate in citizenship through digital technology accurately and confidently.
- (4) Teachers can effectively collaborate on academic and assigned tasks through digital technology in a variety of ways.
- (5) Teachers can publish their students' work using digital media accurately and quickly.

3. Digital Media Creation (Create) consists of;

- (1) Teachers can develop learning content in a digital format, where students can study both online and offline.
- (2) Teachers can integrate content and connect learning in many dimensions by using digital technology to enable students to develop in all areas.
- (3) Teachers can create teaching materials that are suitable for content and learners in digital format under valid copyright.
- (4) Teachers can apply for digital programs in a variety of formats to enable learners to use and learn easily and suitable for students' age conditions.
- (5) Teachers use digital tools to create digital learning materials correctly and confidently so that students can learn effectively.

2. Population and sample scope: The researcher divides the presentations according to the research process into 2 phases as follows:

Phase 1: The study of elements of digital literacy by 7 experts to assess the suitability of elements and indicators.

Phase 2 Needs Study the current and desirable conditions of digital literacy among elementary school teachers under the Office of the Basic Education Commission.

1. The population used in this research consisted of 8,390 primary schools in the Northeast under the Basic Education Commission.

2. The sample group used in this research was an elementary school in the Northeast

under the Office of the Basic Education Commission by comparing the population with the finished table of Krejcie and Morgan (1970), A sample of 374 primary schools was obtained by Multi-Stage Random Sampling method, each school providing information, namely 374 school administrators and 374 primary school teachers, a total of 748 people.

3. Variables to study digital literacy among primary school teachers in 3 areas: (1) digital content search (locate), (2) digital communication (communicate), and (3) digital media creation (Create)

3. METHODOLOGY

Phase 1 A study of the components and indicators of digital literacy among primary school teachers under the Office of the Basic Education Commission.

1. Study the concepts and research theories related to digital literacy among primary school teachers.

2. Synthesize concepts, theories, and related research to be formulated as key components and indicators.

3. The composition and indicators were assessed by seven experts with expertise in education administration or digital citizenship using the Consistency Assessment Form of Digital Literacy Components and Indicators of Elementary School Teachers under the Faculty Office. The values of the committee members of basic education using the IOC (Index of Congruence) technique were found to be between 0.60-1.00.

Phase 2 Study necessities, current and desirable conditions, digital literacy of primary school teachers under the Office of the Basic Education Commission.

Step 1: Proceedings: The researchers applied the digital literacy components and indicators obtained from the phase 1 assessment of the conformity of digital literacy components and indicators by experts in the study of needs, current and desirable conditions, and the synthesis of documents on digital literacy development methods to create a questionnaire to survey the current state and the desirable

state of digital literacy among elementary school teachers under the Office of the Basic Education Commission.

Step 2: Population and Sample:

1) Population, including school directors and teachers Primary Education Service Area Office in the Northeastern region under the Office of the Basic Education Commission of 403,320 people.

2) The samples were randomly selected using the Multi-stage Random Sampling Technique as follows:

2.1) The provinces in the Northeast are divided into 2 groups, namely 12 provinces in the upper Northeast, namely Loei, Nong Bua La Phu, Udon Thani, Nong Khai, Bueng Kan, Sakon Nakhon, Nakhon Phanom, Mukdahan, Roi Et, Kalasin, Maha Sarakham, and Khon Kaen, and the lower Isan province, 8 provinces, namely Chaiyaphum, Nakhon Ratchasima, Buriram, Surin, Sisaket, Ubon Ratchathani.

2.2) Provinces in each group of 5 provinces were randomly selected using the Simple Random Sampling Technique. The provinces in the Upper Isan group were Roi Et, Kalasin, Maha Sarakham, Sakon Nakhon, and Khon Kaen. The provinces in the lower Isan group were Surin, Ubon Ratchathani, Sisaket, Nakhon Ratchasima, and Buriram.

2.3) Determine the sample size by comparing the population with the ready-made tables of Krejcie and Morgan. School director of 379 people and teachers of 812 people.

2.4) Sampling the schools proportionately by using a simple random sampling technique.

Step 3: Data Collection Tools:

1) The tools used to survey the current and desirable conditions of digital literacy of teachers are divided into 3 parts: Part 1 general information of respondents such as school size, position, education level, and work experience, is a checklist. Part 2 The level of competence or behavior concerning the current state, and the desirable state of digital literacy of teachers is a 5-level rating scale, namely, the highest, the high, the medium, the low,



the lowest, according to the criteria. As follows (Srisa-ard, B.2011). And Part 3, additional general recommendations.

2) To create and find the quality of the tool, proceed with the following steps; (1) Study the principles, concepts, theories, and research papers related to the creation of a questionnaire on the current state and the desirable state of digital literacy among teachers. (2) Draft questionnaires on current conditions and desirable conditions for the development of digital literacy among teachers. (3) Present the questionnaire on current conditions and desirable conditions for the development of digital literacy of teachers to advisors or qualified persons and make improvements according to recommendations. (4) Present the Teachers Digital Literacy Presence and Desired Conditions questionnaire to 5 experts to examine the validity, the appropriateness of the language structure, and the format and to determine the consistency index of the questions. The definition of terms using the IOC (Index of Congruence) technique (Srisa-ard, B., 2010) appears to be between 0.60-1.00. (5) Revised according to expert advice before publication for data collection.

4. Results

1. The digital literacy component of primary school teachers in all aspects at a high level in order of average Descending including; Digital content search (locate) average of 3.84 (standard deviation of 0.78), digital communication (communicate) has a mean of 3.72 (standard deviation is 0.85), and Digital Media Creation (Create) has a mean of 3.52 (Standard Deviation is 0.91)

2. The desirable state of digital literacy among primary school teachers in all aspects at the highest level, in order of average Descending including; Digital communication (communicate)

Step 4: Data Collection: The researcher conducted data collection from the sample group using questionnaires developed via postal mail and Google form online media to primary schools, school directors 379 people, and teachers at level 812 people. And follow up the questionnaire back via mail and online media channels Google form

Step 5: Processing and Data Analysis: The investigators examined and selected complete questionnaires for use in data analysis using PNI Modified Needs Analysis (PNI: Priority Needs Index) Vongvanich, S. (2007) to compare the differences between present and desirable conditions and prioritize the needs needed to develop.

Step 6: Statistics Used to Analyze the Data: (1) Mean and Standard Deviation, (2) Content fidelity index value, and (3) Essential Needs Analysis (PNI Modified).

averaged 4.85 (standard deviation is 0.89), Digital content search (locate) 4.73 (standard deviation of 0.84), and creative digital media (Create) has a mean of 4.58 (standard deviation is 0.95).

3. The digital literacy needs of primary school teachers, based on the Modified Priority Needs Index (PNI Modified), the digital citizenship of primary school students, found that the priorities of the needs of the current state and the desirable state of digital literacy among primary school teachers are as follows; No. 1 Creative Digital Media (Create) (PNI Modified = 0.1741), No. 2 Digital Communication (communicate) (PNI

Modified = 0.1159), and No. 3 Digital Content Search (locate) (PNI Modified = 0.0742).

Discussion

According to the study, the need for digital literacy among elementary school teachers is an interesting point. The results were discussed as follows:

1. The digital literacy component of primary school teachers found that there were 3 digital literacy components, It covers the teaching and learning management of primary school teachers by using digital technology to develop and promote learners to have the characteristics specified in the curriculum. Elements and indicators of digital literacy for primary school teachers include; (1) Digital content search (locate), (2) communication using digital (communicate), and (3) Digital media creation (Create).

2. The current state of digital literacy among primary school teachers is; (1) digital content search (locate), (2) communication using digital (communicate), and (3) Digital media creation (Create), all aspects are practiced at a high level. The digital citizenship requirements of primary school students are; (1) digital content search (locate), (2) Digital communication (communicate), and (3) Digital media creation (Create), all aspects were performed at the highest level. Consistent with a study by Akarawang, C., that found that more than 40 percent of teachers were still incapable of using technology, especially teachers over 50. Although schools are allocated budgets to provide computers for teaching and

operational activities, there is an internet system, those teachers reason for not using it as being difficult, don't want to learn, so they can't use technology to be effective in teaching and learning. However, teachers in their youth have a good level of information technology and communication skills, which can be used in teaching and learning (Akarawang, C., 2015). The results of the study of ICT indicators in education in basic education institutions, Ministry of Education, the academic year 2014 found that the use of computers in educational institutions was mainly for teaching and administrative purposes, and teacher competency found; most teachers can use electronic mail (E-mail) and social media use is at a high level (Ministry of Education, 2014). Including the results of the study of Tritrakan, K. who studied the opinions of Rajabhat University professors on the present condition of the teaching environment, teaching management process, and computer programming course evaluation. It was found that the instructors of computer programming courses at Rajabhat University had their opinions about the current situation at a rather high level, and the demand was at a high level (Tritrakan, K., 2016).

3. The digital literacy needs of primary school teachers are determined by the Modified Priority Needs Index (PNI Modified), the digital citizenship of primary school students in all aspects, when sorted from the PNI Modified values from highest to lowest, it was found that the aspect with the highest PNI Modified value was No. 1 Creative Digital Media (PNI Modified = 0.1741), No. 2 Communication using digital (communicate) (PNI Modified =

0.1159), and No. 3 place in digital content search (locate) (PNI Modified = 0.0742). Which corresponds to This is consistent with the results of the study of Luaimsai, P., who studied the training needs for improving information technology competency of teachers under the Chonburi Provincial Administrative Organization found that; teachers have the greatest need for training to enhance IT competency, namely, instructional media design and development (Luaimsai, P., 2016). And Office of the Basic Education Commission (2010) has set the standards for information technology for teachers in the field of knowledge that; the teachers must have knowledge of language and technology and have the ability to use basic computers, choose to design, create and improve innovations to enable learners to learn well, use media, innovation, and technology in management. learn a variety of

content and learning activities, and use computer technology to produce media Innovations used in learning management (Office of the Basic Education Commission, 2010).

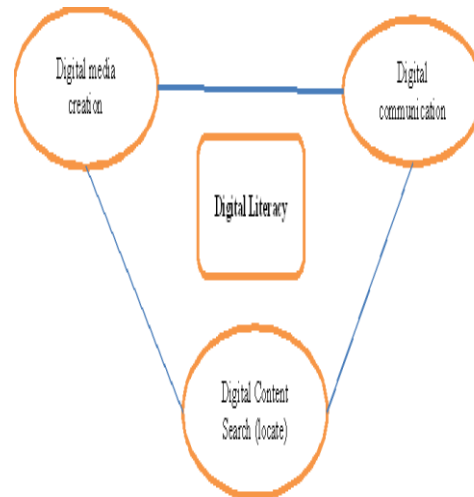


Figure 1: Digital Literacy

From this study gaining new knowledge about digital literacy among teachers under the Office of the Basic Education Commission found that: Digital Literacy is the knowledge, skills, and attributes of a person about making the most of current computer programming devices and digital technologies for teaching and learning activities such as computer systems, applications or applications, telephones, and mobile devices, Internet networks, and social media, both in the form of teaching as the main activity and as an extracurricular activity for learners to achieve the objectives set by the curriculum which consists of;

1. Digital Content Search (locate) refers to the ability to use digital tools such as the YouTube web browser, in content search for interesting teaching materials to develop learning activities for learners to

achieve the objectives of learning activities.

2. Digital communication (communicate) refers to the ability to communicate digital content to understand, disseminate, and publicize to create cooperation in the development of academic quality accurately fast.

3. Digital media creation (Create) refers to the ability to create digital media to make students interested in the lesson that can be used in a variety of channels, both online and offline, so that students can learn anywhere, anytime.

6. RECOMMENDATION:

The current state regarding digital literacy among teachers under the Office of the Basic Education Commission is mostly at a high level. The demand for digital literacy



as a whole is at the highest level, and the teacher's first need for digital literacy is to create digital media (create), the second is digital communication (communicate) and the third is digital content search (locate). Therefore, the concerning agency may use this finding as an advantage as follows; (1) According to the results of the survey, the current state and the teacher's overall digital literacy needs are at a high level. As for the demand at the highest level, the Office of the Basic Education Commission should be used as information for developing teachers under the agency to have digital literacy competencies for use in teaching and learning management and practice. And (2) according to the results of the assessment of teachers' need for digital literacy, it was found that the need for digital literacy with the highest index was Creative. Therefore, research should be carried out to enhance these competencies for teachers first

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