European Journal of Education Studies
ISSN: 2501 - 1111
ISSN-L: 2501 - 1111
Available on-line at: www.oapub.org/edu

doi: 10.5281/zenodo.1445273 Volume 5 | Issue 3 | 2018

MODEL OF DIGITAL LITERACY DEVELOPMENT FOR YOUTHS IN BANGKOK, THAILAND

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Abstract:
Model of Digital Literacy Development for Youths in Bangkok aims to develop digital literacy for youths in Bangkok by manipulating Research and Development with following research tools: 1) a 5-level-rating scale, which collected data from 1,500 participants in the related sample. The result of research shows that the group of samples had medium level of digital literacy and the most answer from them is that students used these ICT devices to play online games with the mean 4.86, while the least answer from them is that students had fundamental knowledge about legality and security of internet usage with the mean 1.20. 2) Evaluation Form for Model Suitability, which collected data from 18 experts with the mean between 4.52-5.00 that showing this model is the most suitable. For the tool of Qualitative research is the record of group discussion, that collected data from 8 related main informants and the conclusion is that overall of model is good, suitable and possible in practice. It can be applied with complete model and no need to be adjusted.

Keywords: youths, digital literacy, Bangkok

1. Introduction

Digital media, such as computers, the Internet, video games, and mobile phones, have come to occupy a central place in the lives of today's youth. It is important to consider the implications of young people's online living, especially for their development and well-being. In 2006, the journal Developmental Psychology published a special section

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on children, adolescents, and the Internet. It was one of the first attempts to bring together high-quality developmental research to understand youth and their digital worlds and a new field of inquiry was born. Since that special section was published, the digital landscape has changed dramatically. Not surprisingly, as the technologies changed, so did their use by youth. (Subrahmanyam & Šmahel, 2011)

Social media refers to all applications and websites or blogs that enable people around the globe to interconnect via the internet, chat, and share content, video call among many other functionalities it offers to its users. For a person to be a member of any social media, he or she has to first signup and then sign in to access content and be able to share and chat with other users of that social media platform. Some of the common and widely used social media platforms include Facebook, Twitter, WhatsApp, Snapchat many among others. (James, 2017)

Bangkok, the capital of Thailand, conveys the idea of modernity in the sense of modern transportations, new values and new forms of experience and high literacy. Bangkok is perceived as the dominant urban centre in terms of population density, with high levels of migration from four regions (North, East, West and South) and the associated cultural diversity this brings. In addition, Bangkok was a centre of economic, financial and government institutions, represents the power of telecommunications within a country where mobile communications are much needed among Thai teenagers who live in Bangkok. (Bunnag, 2006)

Mobility and access to communications in Thailand have greatly increased. The number of households with a television grew from 89.3 percent in 2000 to 97.1 percent in 2011. The rapid penetration of mobile phones has increased access to the telephone quite remarkably. In 2011, 7-in-10 of Thai people owned a mobile phone, compared with 1-in-10 for a fixed line telephone in 2000. (United Nations Development Programme, 2014). Although social Medias have many advantages such as researching for study, socializing to exchange ideas and for entertaining, there are also some disadvantages if it isn't used properly. Since publicized information could be false, encroaching on others, violating the monarchy institution, including with improper contents that go against morals and Thai culture in many ways. Being ignorant, lack of consideration and irresponsible for information publicizing could ruin oneself and others, especially children and youths that lack of maturity, they can become victims of crimes easier.

Therefore, one of the best protections is to train children and youths to be acknowledged about basic of law, computer crimes and be able to analyze and evaluate media on internet tentatively and efficiently. It will protect children and youths from any risks or illegal behavior, that may disguise in media and technology in any other ways.

1.1 Objectives

The study aims to study on digital literacy of youths in Bangkok that improve method of digital literacy development for youths in Bangkok. It is hoped that the Thailand Government will gain benefit and will consider adopting this Model of Digital Literacy

to improve the quality of life of youth for the youth can grow as a good adult in the future.

2. Literature Review

Today's adolescents are surrounded by digital media such as computers and the Internet, video games, mobile phones, and other handheld devices. They were born in digital worlds and have lived their entire lives surrounded and immersed within them. (Roberts & Foehr, 2008) (Subrahmanyam & Šmahel, 2011). Digital technologies are popular among adolescents, and just as radio, film, and television before them was treated with suspicion (Subrahmanyam & Šmahel, 2011). The use of digital media has both negative and positive impacts on our youths today.

2.1 Digital Literacy

Digital literacy has been defined in various ways since 1997. This concept appeared in a book entitled Digital Literacy, in which the author defined digital literacy as the ability to comprehend and apply various forms of information science from several sources in order to present information on the computer (Gilster, 1997). Digital Literacy consists of three dimensions: technical, cognitive and sociological skills. These are used to solve problems within the environment of a digital society. Furthermore, a number of scholars define digital literacy as a circumstance of technological development. Individuals with digital literacy skills must be able to use technology as the digital age's information management tools (Eshet-Alkalai, 2004). In 2006, Digital literacy is the ability to succeed in encounters with the electronic infrastructures and tools that make possible the world of the twenty-first century. Digital literacy has become a central enabling agent in the educational enterprise, as a result of a number of trends (Martin, 2006). In 2011, Digital literacy, a term that emerged with the explosion of digital information and multimedia technology, refers to basic competence in using digital technology (Jun & Pow, 2011). In other words, digital literary could encompass the application of technology for a presentation or problem solving, co-operating and knowledge sharing, as well as being aware of individual responsibilities and the individual rights of oneself and others. (Sharpe, 2010). In addition, Digital Literacy was been defined that to develop an information specialist's digital literacy, Sciences Students have to practise three skills: information management skills, digital tools usage and the creation of new content and the consolidation of information. The three skills are based on the process of developing cognitive skills, which have to be integrated into every step of the developmental process. (Kaeophanuek; et. al, 2018)

In Thailand, very little of the literature has discussed the definition and competencies of digital literacy. The first source was issued by The Department of Education of Thailand (2010). It provided four core digital literacy skills comprising technology, critical thinking, collaborative working, and social awareness skills. Later, a research paper by Jongsermtrakoon & Nasongkhla (2015) defined digital literacy as the ability to use digital materials including the skills to define, access, evaluate, manage,

integrate, create, and communicate. Later, a research paper by Phuapan, Viriyavejakul, and Pimdee (2016) defined six factors of digital literacy for Thai students, being the ability to access, manage, integrate, evaluate, create, and communicate. Their model consists of 19 indicators. More recently, a research paper by Techataweewan & Prasertsin (2018) defined digital literacy as the set of abilities to utilize and be aware of digital information, technology, and media for searching, evaluating, creating, and communicating as needed.

2.2 Development of Digital Literacy skill

The most important steps to develop Digital Literacy and Citizenship programs for every child in America: fund professional development for educators, create basic resources for educating teachers, parents, and kids, fund and deliver education/technology resources in underserved schools and communities, Make media education and Digital Literacy an essential part of every school's basic curriculum (Common Sense Media, 2009) In addition there are several necessary components of digital literacy are common for future computer users and ICT professionals: accessing information, integration, creation of new knowledge and communication (Karpat, 2011). More recently, Digital Literacy was been defined that to develop an information specialist's digital literacy, Sciences Students have to practice three skills: information management skills, digital tools usage and the creation of new content and the consolidation of information. The three skills are based on the process of developing cognitive skills, which have to be integrated into every step of the developmental process. (Kaeophanuek; et. al, 2018)

3. Material and Methods

This research is manipulated with Research and Development method by collecting data with Quantitative and Qualitative processes as following:

1. Scope of Research

1.1 Scope of area – specified scope of area by selecting Bangkok area according to given criteria:

- Being the most crowded city, and
- Being the center of technology development.

1.2 Scope of population – groups of sample and main informants

1.2.1 Population – unspecified number of 13-18 years old youths in Bangkok area

1.2.2 Group of samples - Number of samples – in case number of population is unspecified or too many, it can be calculated by this easy formula: (Cronbach, 1909).

$$n = \frac{P(1-P)Z^2}{d^2}$$

Where:
n = number of samples;
P = number of population that wants to random (identified it equal to 0.50);
d = amount of deviation that could occur, d = 0.05;
z = Level of confidence 99%, z = 2.58.

There must be at least 666 samples. To get more complete data, number of samples is adjusted to be 1,500 samples. Sample random it's randomized by Stratified Sampling as following process:

- District selection – selected 1 district with Simple random Sampling by drawing;
- Middle school random – randomized sample of middle school with Simple Random Sampling by drawing;
- Class selection with Purposive Selection by selecting class of each grade that contained number of students according to ratio of number of student of each grade compared with rule of three in arithmetic, equals to 1,500 samples.

1.3 Group of main informants – collected data with qualitative process that classified in to main 3 groups as follows:

1.3.1 Group of main informants – to study about basic information of designing model of Digital Literacy Development for youths in Bangkok area by interviewing in detail with 18 informants via Purposive Selection consisting of academic people that had researches or knowledge about youth digital.

1.3.2 Group of Stakeholders – to evaluate efficiency model of Digital Literacy Development for youths in Bangkok area by group discussion consists by:

- Digital experts,
- Representative of villages or government sectors that was relevant with youths,
- Representative of youths.

2. Research tools

2.1 Quantitative data is collected by following tools:

- Questionnaires – to survey digital literacy of youths in Bangkok area,
- Evaluation form – the form of evaluation as Rating Scale is used for analyzing by calculating with Cronbach's Alpha Coefficient (Cronbach, 1970) to get the result of reliability of evaluation form, X = .8035.

2.2 Qualitative data is collected by interviewing in detail and group discussion.

3. Data Collection and Analysis

3.1 Data collection – researcher collected it herself.

3.2 Data analysis – quantitative data is analyzed by following statistic techniques: Frequency Distribution, Percentage, Arithmetic Mean, and Standard Deviation. While qualitative data is analyzed by Content Analysis method.

4. Results and Discussion

4.1 Survey Digital Literacy of Youths in Bangkok Area

Research: R) is the survey of digital literacy of youths in Bangkok area by using quantitative tool as evaluation form for youths in Bangkok. Took the survey of digital literacy of youths in Bangkok area to 3 experts for considering and evaluating to check for Index of Item Objective Congruence: IOC. The result of index of item objective congruence equal from 0.67 to 1.00. Then took it to survey with 1,500 samples of youths in Bangkok area.

4.1 Research Result

It is the procedure to study by using quantitative research method. Researcher collected data from the survey of 1,500 samples, then did statistical analysis referring to the collected data by classifying the result of analysis according table 1

Table 1: Showing average of answers from group of samples towards Digital Literacy of Youths in Bangkok Area

Topics	Level of answers from group of samples		
	Arithmetic Mean	Standard Deviation	Definition
1. Parents didn't have time to guide their children and they lack digital literacy as well	3.57	0.89	high
2. These ICTs are trend that they needed to follow	4.11	0.83	high
3. Used these social media to socialize with others	4.52	0.10	the highest
4. Used these ICTs for their study only	2.89	0.27	medium
5. Uses these medias for entertainment rather than study	4.58	0.66	the highest
6. Used ICTs to access websites containing pornographic, gambling, violent contents and other taboos	1.88	0.14	low
7. Used ICTs to interrogate about pornographic, gambling, violent contents and other taboos	1.26	0.43	the lowest
8. Used to post improper pictures or edited pictures on some web boards that could bully or ruin others	3.12	0.66	medium
9. When using these ICTs to read contents on some websites, they used to have questions about who wrote that content on website, what are their purposes, etc.	2.44	0.61	low
10. Believed in what they found at first after searching on website	3.46	0.69	medium
11. Went over and tried to understand with contents on websites and rechecked by comparing with information from other sources	2.97	0.26	medium
12. They used to post private information of their own and their parents such as mobile number, pictures, home address, ID card or any other cards number on websites or gave to others on the internet	1.69	0.54	low
13. They used to meet with friends from social medias	2.02	0.23	low
14. They used to be victims of crimes on the internet	2.21	0.34	low
15. They used these medias to play online games	4.86	0.38	the highest
16. They used to copy movies, songs, software or other			

documents without giving credit to the owners or pretended that it belonged to them	2.08	0.44	low
17. They thought that copying others' works is common	4.86	0.38	the highest
18. They didn't care whether the things that they found on the internet is good or bad, but only for their favor	2.15	0.32	low
19. They had fundamental knowledge about legality and security of internet usage	1.20	0.10	the lowest
20. They had someone guiding for how to use internet safely	3.19	0.55	medium

According to the Table 1, it shows that overall of group of samples have digital literacy in medium level. When considering topic by topic, we found that the most answer from samples is that they used ICTs to play online games and thought that copying others' works without giving credit is common thing with the mean 4.86, secondary is to use ICTs for their entertainment rather than study with the mean 4.58, finally, they used social media to socialize with others with the mean 4.52.

For the group of samples that had high level of digital literacy, the most answer that these medias were new trend that they needed to follow came first with the mean 4.11, followed by the answer that their parents didn't have time to guide them and lack digital literacy as well with the mean 3.57.

For the group of samples that had medium level of digital literacy, the most answer is that they believed in what they found at first after searching on website with the mean 3.46, following by they had someone guiding for how to use internet safely with the mean 3.19, next, is the answer that they used to post improper pictures or edited pictures on some web boards that could bully or ruin others with the mean 3.12. After that is the answer that they went over and tried to understand with contents on websites and rechecked by comparing with information from other sources with the mean 2.97, and finally, they used ICTs for their study only with the mean 2.89.

For the group of samples that had low level of digital literacy, the most answer is that when using these ICTs to read contents on some websites, they used to have questions about who wrote that content on website, what are their purposes, with the mean 2.44, secondary answer is that they didn't care whether the things that they found on the internet is good or bad, but only for their favor with the mean 2.15, third answer is that they used to copy movies, songs, software or other documents without giving credit to the owners or pretended that it belonged to them with the mean 2.08. Next answer is they used to meet with friends from social medias with the mean 2.02. After that, the answer is they used ICTs to access websites containing pornographic, gambling, violent contents and other taboos with the mean 1.88. Finally, they used to post private information of their own and their parents such as mobile number, pictures, home address, ID card or any other cards number on websites or gave to others on the internet with the mean 1.69.

For the group of samples that had the lowest level of digital literacy, the most answer is that they used ICTs to interrogate about pornographic, gambling, violent contents and other taboos with the mean 1.26 and following by the answer that they

had fundamental knowledge about legality and security of internet usage with the mean 1.20.

4.2 Improve Digital Literacy Development for Youths in Bangkok Area

Development: D is the model improvement by referring to basic information from first process including with meta-analysis in order to creating model of Digital Literacy Development for Youths in Bangkok Area. Then took draft of development model to 3 experts for considering and evaluating to check for Index of Item Objective Congruence: IOC. The result of index of item objective congruence equal from 0.67 to 1.00 after that presented it to 5 experts for drafting model of Digital Literacy Development for Youths in Bangkok Area. In this process, researcher proceeded it 3 times as following:

First time, drafted model by interviewing experts. The experts are qualified by selecting 18 academic people that had works or knowledge about digital for youths. Next, referred to the result from interview to draft model of Digital Literacy Development for Youths in Bangkok Area by using semi-structured interview form.

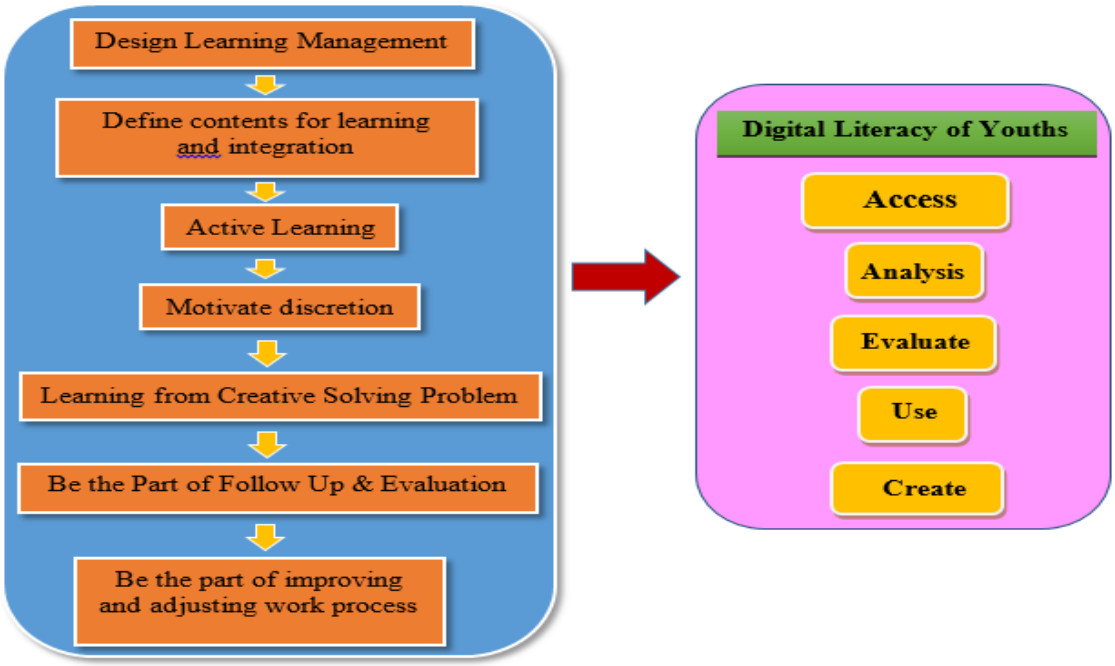
Second time, model of Digital Literacy Development for Youths in Bangkok Area is reviewed by experts and gave answers according to 5 rating-scale form that was created from interview result.

Third time, the experts confirmed model of Digital Literacy Development for Youths in Bangkok Area by filling up 5 rating-scale form that was created from the information in the filled form that mentioned in second time.

Model of Digital Literacy Development for Youths in Bangkok Area is featured by 5 elements of digital literacy development for youths:

1) Access,
2) Analyze,
3) Evaluate,
4) Use,
5) Create by going through these 7 development processes:
    a) The process of designing learning management for digital literacy for youths that teaches them to on digital usage step by step continuously in order to lead them to digital literacy,
    b) Variety & Life Integrated Contents and Continuity,
    c) Active Learning,
    d) Motivate them to discrete and the questions should be related to their everyday lives,
    e) Learn from creative solving problem by letting them access and interact with ICT and other youths with the “Play and Learn” method, which means to let them enjoy with learning and find the answer by themselves,
    f) Be the part of follow up and evaluation,
    g) Be the part of improving and adjusting work process with main concept of model of digital literacy development for youths in Bangkok area as showing in picture 1:

4.2.1 Research Result



Picture 1: Flow chart of model of digital literacy development for youths in Bangkok area

4.3 Evaluate Model of Digital Literacy Development for Youths in Bangkok Area

To evaluate correction, suitability, possibility and benefits by discussing with 8 related samples consisting of

1) Digital experts,
2) Representative of villages or government sectors that was relevant with youths,
3) Representative of youths.

4.3.1 Research Result

The result of group discussion about the pattern of digital literacy development to certify it, the conclusion is that overall of model is good, suitable and possible in practice. It can be applied with complete model and no need to be adjusted

5. Discussion

5.1 Digital Literacy of Youths in Bangkok Area

From the study, we found many important topics as follows: for the digital literacy, children and youths from the group of samples used ICTs for playing online games and socializing with others. Even though the answer that they used ICTs to interrogate about pornographic, gambling, violent contents and other taboos is less, their fundamental knowledge about legality and security of internet usage is less as well, which may lead them be victims of crimes on the internet both directly and indirectly. Moreover, we also found that children and youths from the group of samples could use ICT devices fluently, but they chose the use it for entertainment rather than searching for knowledge, this related to the research result of Sydney Jones & Susannah Fox,

(2009), that researched about online gaming was the most frequent online activity among US teens with 78% reporting that they played them which related to research of Patricia Marks Greenfield & Kaveri Subrahmanyam (2003) which also found that chat rooms are online spaces where users interact with each other in real time; they can be either public or private. Typically, multiple-users participate in several simultaneous conversations occurring at the same time in the chat space, which is related to theory of Media Literacy and research of Kevin Atibu Sebouru (2015) which also found that the findings uphold that internet technologies users spent more time socializing with friends. The mediums used by University of Nairobi students to access the internet technologies in order of preference were cell phones and smart devices, cyber cafes and university's computers labs. Also, the duration of ICT usage was over than 3 hours a day with the duration of usage for Instagram, Twitter, chatting applications, Facebook, Line and games were as high as each other, since it's not less than 3 hours and for entertainment mainly.

5.2 Model of Digital Literacy Development for Youths in Bangkok Area

From the study, we found that model of digital literacy development for youths in Bangkok area is featured by 5 elements of digital literacy development for youths: 1) Access, 2) Analyze, 3) Evaluate, 4) Use, 5) Create that related to the result from synthesizing relevant research and theory by Child and Youth Media Institute (2014), The American Library Association, 2000 (2013) and Partnership for 21st Century Learning (2015). Moreover, model of digital literacy development for youths in Bangkok area is featured by 7 development processes: 1) The process of designing learning management for digital literacy for youths that teaches them to on digital usage step by step continuously in order to lead them to digital literacy, 2) Variety & Life Integrated Contents and Continuity, 3) Active Learning, 4) Motivate them to discrete and the questions should be related to their everyday lives, 5) Learn from creative solving problem by letting them access and interact with ICT and other youths with the "Play and Learn" method, which means to let them enjoy with learning and find the answer by themselves, 6) Be the part of follow up and evaluation, 7) Be the part of improving and adjusting work process, which related to Jongsermtrakoon, S. and Nasongkhla, J. (2015) and Phuapan, P., Viriyavejakul, C., Pimdee, P. (2016) who determined the following elements of digital literacy: define, access, evaluate, manage, integrate, create, and communicate.

6. Recommendations

6.1 Recommendations from research

1) We should build learning network for digital media to be the learning society whether it's between youths, youths and teachers, parents or even community. This will lead to body of knowledge from many ideas quickly and up to date.

2) There should be activities for supporting relationship and learning digital literacy together between parents and youths in order to stabilize family institution by using digital media as a tool

6.2 Recommendations for Next Research

There should be Participatory Action Research: PAR between researchers and communities such as friends, families, educational institutions and youths to develop digital literacy that will be suitable and efficient for youths.

7. Conclusion

In conclusion, this research shows that the group of samples had medium level of digital literacy and the most answer from them is that students used these ICT devices to play online games while the least answer from them is that students had fundamental knowledge about legality and security of internet usage. Evaluation Form for Model Suitability, which collected data from 18 experts that showing this model is the most suitable. For the tool of Qualitative research is the record of group discussion, that collected data from 8 related main informants and the conclusion is that overall of model is good, suitable and possible in practice. It can be applied with complete model and no need to be adjusted.

Acknowledgements

I am grateful to Dr. Jindarat Kaewpikul and School Director, Miss Kanung-nart chantawong for collaboration to complete this study and Special thanks for Thai School to conducted my experiment work, providing me all sorts of possible helps to finish collected data.

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