

Research And Development On Media Literacy And Anxiety Reduction During Covid-19 Pandemic By Using Inquiry Based Instruction With Instructional Package For Thailand And Vietnam Undergraduates

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ABSTRACT

The objectives of this research were to explore the problem condition among the undergraduates in Thailand and Vietnam on media literacy and anxiety about COVID-19 and to assess the effectiveness of the developed teaching and learning model. The sample group consisted of 30 first-year students in the Program in Science, Faculty of Education, Suan Sunandha Rajabhat University, in the academic year of 2021. The research tools were the questionnaires measuring the problem condition and anxiety about COVID-19 and the questionnaires measuring the reduction on the relief of COVID-19 anxiety. The data were analyzed with mean and standard deviation and the media literacy test. The data were analyzed by comparing media literacy scores before and after the experiment using t-test statistics.

The research results revealed that 1) for the problems of students in Thailand and Vietnam, it was found that the students had media literacy problems and anxiety about COVID-19 at a moderate level ($M=3.71$, $SD=1.03$). The students had media literacy problems at the moderate level ($M=3.55$, $SD=0.92$). 2) For the effectiveness of the teaching and learning model, it was found that the sample group had higher mean score on media literacy ability than before the experiment with statistical significance at a level of .05. 3) For the relief of COVID-19 anxiety, it was found that students had reduced anxiety about COVID-19 at a moderate level ($M=3.17$, $SD=1.03$).

Keywords: research and development, media literacy, anxiety reduction, covid-19, inquiry based instruction

INTRODUCTION

The COVID-19 situation has made people around the world want to stay informed about care and protect themselves from such diseases for adapting to daily life and occupation. The Covid-19 situation has huge impact on children and youth in terms of their cognition causing them to be anxious about the severity of the disease. Obtaining the information and fast news on social media from mobile phone make

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these children and young people use discretion in analyzing, comparing data, and finding more truth to get the most accurate information.

Media Literacy is an important skill in the life of message recipients in the modern era. Dunkanit (2020) stated that media literacy is an important skill for living in the 21st century as modern media takes on more diverse and sophisticated forms. Learning management for children and youth to have the media literacy is therefore necessary in accordance with the National Education Plan 2017 – 2036 setting the vision that “All Thai people receive quality education and lifelong learning in order to live happily corresponding to the Sufficiency Economy Philosophy and change in the world in the 21st century” (Education Council Secretariat, Ministry of Education, 2017). In addition, in the Core Curriculum of Basic Education B.E.2551, the five key competencies of learners have been identified in consistent with media literacy including communication competency, thinking competency, problem solving competency, life skills competency, and technology application competency (Ministry of Education, 2009).

Nowadays, receiving information from social media is widespread among people of all levels as it is easy to understand and is quickly accessible especially, Thai youth who have spent more time on social media in the past ten years. According to the research, children aged 8 to 18 spend an average of 7 hours and 38 minutes a day watching entertainment on social media (Office of National Digital Economy and Society Commission, 2019). However, as most children are not taught to use media carefully on messages from the mass media, health problems arise. For example, during the COVID-19 pandemic, children and young people have such anxiety on the virus when receiving the information from online media consisting both factual information and fake news.

In addition, about 22% of youth studying in higher education at the age from 21 to 26 years (OECD, 2019) encounter concerns over the COVID-19 pandemic. This is normal for students to have a slight level of anxiety. However, there are many students with severe anxiety affecting their daily life and education. Such anxiety can become more destructive over time as the ongoing outbreak of COVID-19 affects the students’ behaviors in terms of self-care and incorrect disease prevention. Therefore, students should have media literacy which is the ability to access material information, analyze and assess the credibility of the media that students receive as well as knowing how to use knowledge from such information effectively.

Developing media literacy will be one way for students to alleviate their concerns about COVID-19 to gain better understanding of how to use their daily lives safely from the spread of the disease. Thus, the researchers developed an instructional model using a series of activities based on the concept of investigation. To assess the effectiveness of the teaching model whether it can promote learners to be competent in media literacy and learners to alleviate their concerns about COVID-19.

LITERATURE REVIEW

2.1 Definition and Characteristic of Media literacy

Media literacy is an essential skill for living in the 21st century. The awareness and immune skills for children and young people should be created. UNESCO (2010) states that media literacy or media education is essential to empower citizens, to build, and to develop competencies, attitudes and skills necessary to understand the function of the media in order to become persons with skills and analytical abilities for the assessment and use of media in a person’s professional and lifestyle. This is consistent with Suminas (2020) stating the roles of education. Media literacy is particularly emphasized in the

context of youth education. Media literacy helps young people to understand media content accurately, discriminating media formats critically and coherently in order to intelligently benefit from media.

Center for Media Literacy (2008) says that 5 components of media literacy are as follows:

1) Access Skills are the abilities to find or draw a summary of the essentials from reading the content of the media, explaining the understanding, identifying the meaning of the contents presented by the media, and identifying the benefits of the media to oneself and others.

2) Analysis Skills are the abilities to tell, explain, distinguish facts, exaggerations, opinions and persuasion from media presentations as well as explaining the concept of substance and telling the main objectives and hidden objectives of the media including providing reasonable supporting reasons.

3) Evaluation Skills are to value the determination, accuracy, and quality of the substance, reasonable selection, or rejection of information from the media.

4) Creation Skills are to express the opinion in accordance with the objectives of the media and suggest their ideas creatively being able to design and present information through appropriate media.

5) Participation Skills are the participation in criticism and expressing opinions to the media ethically allowing others to participate in the critique comment and make use of their media appropriately.

2.2 Anxiety reduction during Covid-19 pandemic

COVID-19 is announced by the World Health Organization to be named the new coronavirus disease. As of 11th February, 2020, the disease occurred from the coronavirus and began to appear in 2019. It can cause disease in birds and mammals including humans. It causes respiratory infections with possible mild symptoms such as from common cold to death. COVID-19 has spread to countries around the world including Thailand. Apart from affecting the body, it also affects the mental health of people as well whether the panic and anxiety about infectious disease. Department of Mental Health (2008) discusses anxiety as a characteristic of a person who thinks of problems or unpleasant things that may arise in a way that causes feelings of unhappiness and fear. Anxiety is an emotional state that arises from a person's cognitive and cognitive processes. This is in accordance with Arden (2020) stating that anxiety is the unhelpful thinking pattern we experience when our minds are focused with the threat, uncertainty and negativity where anxiety can arise spontaneously as a response to stress or may trigger stress.

In conclusion, COVID-19 anxiety is an emotional state that arises from a person's cognitive and cognitive processes which is the feeling of acknowledging or anticipating danger or uncertainty from the epidemic situation of COVID-19 that affect the need for both physical and mental life. Sometimes, not knowing the exact cause leads to the feelings of emotional tension, physical discomfort, depressed, scared and fear.

2.3 Inquiry-based learning approach

Regarding the learning management of the investigation process, Joyce & Weil (1996) says that it comes from 2 concepts, namely the idea of seeking knowledge (inquiry) and the concept of knowledge (knowledge). The knowledge is discovered through the process of investigation based on knowledge and experience. The academicians have explained the meaning of investigation process. Wallace (2009) defined the learning management by the examination method as having the same characteristics as teaching by problem solving. It is learning from activities that are organized. The learners use scientific

methods in their activities. It is consistent with Friesen (2013) defining that investigative teaching is the art of developing challenging situations having students observe and question the phenomenon to explain what students observe, invent, and conduct experiments that collect data. It can support or contradict their own theory as well as analyzing the data, drawing conclusion from experimental data design and modeling. The examination process has the following teaching steps (Institute for the Promotion of Teaching Science and Technology, 2017; Friesen, 2013).

1. Engagement is the stage that motivates students to create lessons by using the questions of teachers and students to identify problems of interest to study.

2. Exploration is the stage where students must set the approaches in data collection to make assumptions by imagining solutions and choose the best solution to the problems.

3. Explanation is the stage where students take information from surveys, analyze them, interpret the results, draw conclusions, and present the results. The students will create their products according to the planned steps causing the exchanges between teachers and students and students among students altogether.

4. Elaboration is the stage where students apply the knowledge gained to connect with previous knowledge or apply further researched ideas to explain events that create broader knowledge. The students will create products according to the steps that have been laid.

5. Evaluation is the last step where students assess their learning in terms of operational processes and results. The students need to improve the design process, practice, until the performance of the group. Then, the opinions will be discussed and exchanged which may cause new problems to be applied in new situations.

2.4 Learning package

The instructional packages are educational innovations in the type of multimedia resulting from the improvement of teaching materials in accordance with the integrated education curriculum. The media, processes, and various learning activities are collected to serve as medium between teachers and learners for effective learning according to their objectives. This agrees with Wallace (2009) saying that the activity set is a teaching program for all students specially arranged. There are materials and equipment used in teaching, learning equipment, teacher manuals, content, quizzes, and reliable information. The purpose of the study is clearly defined. This activity set is organized by the teacher for each student to practice themselves. The teacher just guides them.

Research hypothesis

After the trial in using the investigation process together with the activity sets for promoting the media literacy and the relief of COVID-19 anxiety of the university students, the media literacy and the relief of COVID-19 anxiety of the students who were the experimented group was higher than before the trial with statistical significance at .05 level.

METHODOLOGY

1. Population and sample group

The population consisted of 6,073 first-year students in the field of science in Rajabhat University of Rattanakosin Group and in Vietnam for all 6 institutes including Suan Sunandha Rajabhat University,

Bansomdetchaopraya Rajabhat University, Thonburi Rajabhat University, Phranakhon Rajabhat University, Chandrakasem Rajabhat University, and Can Tho University. The sample group of 566 persons answering the questionnaires in the 1st step using the Taro Yamane Standard Tolerance Formula (Yamane,1973) to determine the 95% confidence level and tolerance for not more than 4%. The purposive sampling was used in the 2nd step. The sample group used in assessing the effectiveness of the teaching and learning model from the purposive sampling, i.e. 30 first year students studying science, Faculty of Education, Suan Sunandha Rajabhat University, in the first semester of the academic year 2021.

2. Research model

This research is development research using research and development methodology to develop an instructional model based on the concept of reading from the prototype to promote reading literacy according to the PISA guidelines of junior high school students. The research process is divided into 3 steps:

1st step: Exploring the problem conditions among university students in Thailand and in Vietnam on media literacy and COVID-19 anxiety.

2nd step: Development of instructional model by studying the problems of media literacy and anxiety about COVID-19 and the concept of learning management theory, the investigation process, together with the activity set used to solve problems. All are collaborative by online meetings to jointly develop teaching styles and activities as well as quality inspection and preparation of documents for teaching and learning models.

3rd step: Evaluation on the effectiveness of the teaching and learning model by developing tools in the data collection teaching and learning model experiment. The data collection and analysis are to assess the effectiveness of the teaching and learning model.

3. Tools used for the data collection

The researchers created four data collection tools as follows:

3.1 Plan for learning management on the investigation process together with the activity sets. The activities were arranged in 5 processes, 4 learning management plans, total of 16 hours, with an index of conformity (IOC) between 0.80-1.00.

3.2 One set of questionnaire of opinions on media literacy problems and concerns about COVID-19 which was 5-level rating scale with an index of conformity (IOC) ranging from 0.80-1.00 and the confidence value of 0.89-0.98.

3.3 One set of media literacy test for pre-study and post-study test. It was multiple-choice test with 4 choices totaling 38 items, and 12 subjective items totaling 50 points. The index of conformity (IOC) was between 0.80-1.00, difficulty value was between 0.20-0.80, discrimination index was between 0.20. -0.60 and confidence value was 0.85.

3.4 One set of questionnaire to measure the characteristics of COVID-19 anxiety relief revised from the Department of Mental Health (2021). It was rating scale of 5 levels, the Index of Conformity (IOC) was between 0.80-1.00 and the confidence value was between 0.89-0.98.

4. Data Collection

4.1 The instructors explored the problem conditions among the university students in Thailand and Vietnam about media literacy and anxiety about COVID-19.

4.2 The instructors assessed media literacy from the media literacy competence test. The pre-test was conducted with the sample group. The results of measuring the media literacy competence of the students in the experimental group were considered. The instructors assessed anxiety about COVID-19 from the questionnaire measuring the characteristics of reducing anxiety about COVID-19 before teaching (Pre-test).

4.3 The instructors taught in the classroom according to the learning management plan prepared in accordance with the guidelines based on the approaches in teaching and learning developed by the researchers.

4.4 After teaching and learning according to the specified learning management plan, the researchers assessed media literacy competence with post-test. The anxiety about COVID-19 was assessed from questionnaire measuring the characteristics of reducing anxiety about COVID-19 after teaching (post-test).

5. Data analysis

The researchers used the collected data to analyze quantitatively as follows:

5.1 Finding the mean and standard deviation of the questionnaires on the problem condition among the university students in Thailand and Vietnam about media literacy and anxiety about COVID-19 and then comparing with the interpretation criteria of the quality assessment results.

5.2 Determining the mean and standard deviation of the media literacy scores of the experimental group for pre-test and post-test. Comparing the media literacy scores of the experimental group for pre-test and post-test using t-test dependent statistics with the statistical significance at 05 level.

5.3 Finding the mean and standard deviation of the questionnaires measuring the features of COVID-19 anxiety relief and then comparing with the interpretation criteria of the quality assessment results.

RESULTS

1. Results of exploration on the problem conditions among university students in Thailand and Vietnam about media literacy and COVID-19 anxiety

1.1 The preliminary information of the respondents was the university students in Thailand and Vietnam from 6 institutes in the first semester of the academic year 2021. The number of respondents to the questionnaire was 596, most of them were female for 465 persons or 78%. Most of the students were in the first year for 517 students accounted for 86% studying in Suan Sunandha Rajabhat University for 171 persons accounted for 28.69%.

Table 1 Preliminary data of the respondents

Variables	Details	Students	
		Frequency	Percentage
Gender	Male	104	17.4
	Female	465	78
	LGBTQ	27	4.5
Year	1 st	517	86
	2 nd	79	13.2

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Variables	Details	Students	
		Frequency	Percentage
	3 rd	-	-
	4 th	-	-
University	Suan Sunandha Rajabhat University	171	28.69
	Bansomdetchaopraya Rajabhat University	12	2.01
	Thonburi Rajabhat University	53	8.89
	Chandrakasem Rajabhat University	92	15.44
	Phranakhon Rajabhat University	144	24.16
	Can Tho University of Medicine and Pharmacy, Vietnam	124	20.81

2. Problem condition of media literacy and COVID-19 anxiety

From studying the problem of media literacy and anxiety about COVID-19 of 596 students in higher education in Thailand and Vietnam in the first semester of the academic year 2021, it was found that the students had media literacy problems and anxiety about COVID-19 at the moderate level ($M=3.71$, $SD=1.03$). When considering each aspect of the concerns about COVID-19, most of the students had social anxiety, educational anxiety, and economic anxiety ($M = 3.79, 3.71, 3.57$; $SD=1.28, 0.96, 0.88$, respectively). In addition, the students had problems with media literacy at the moderate level ($M=3.55$, $SD=0.92$).

Table 2 Problem condition of media literacy and COVID-19 anxiety

Statements	Total	
	M	SD
Educational anxiety	3.71	0.96
1. I am worried about learning and teaching because the university is closed for a long time.	4.18	0.71
2. I am worried that the results of my online study will not be as good as it should be.	3.70	0.94
3. I am worried when I have to work in groups on my subjects under the stress of the epidemic situation.	3.66	0.87
4. I am confident in the management of university education in online teaching, learning system/learning method.	3.71	0.83
5. The university has activities for students to be relieved from stress.	3.63	0.91
Anxiety in receiving news	3.61	0.91
6. I am exposed to information through various media such as social media, television, etc.	3.55	0.91
7. I am nervous and confused when I have false information about COVID-19.	4.09	0.90
8. I have a lot of anxiety after hearing the news of the COVID-19 epidemic.	3.69	0.88
9. I pay attention to and stay tuned for updates on vaccinations.	3.42	0.87

Statements	Total	
	M	SD
10. I feel comfortable knowing about prevention, quarantine, and vaccination during the last semester vacation.	3.66	1.87
Social anxiety	3.79	1.28
11. I have the feeling of uncertainty not to be able to control various situations in life.	3.67	0.95
12. I am very insecure and worried when I meet people in the society.	4.16	1.76
13. I care about my health and threats to one's own life.	3.64	0.96
14. I am not sure how well people around me are preventing the spread.	3.99	1.78
15. I am not sure the people I meet have been vaccinated.	3.52	0.99
Economic anxiety	3.57	0.88
16. I am worried about the economic situation I have with myself and my family.	3.72	0.77
17. I am worried about paying my tuition fees for the next school year.	3.48	0.95
18. I am not confident I can manage my finances during the COVID-19 pandemic.	3.51	0.92
Total	3.71	1.03
Media literacy		
19. I have received information about COVID-19 from various media.	3.63	0.88
20. I fully understand the information about COVID-19.	3.60	0.90
21. I check the information about COVID-19 from various media.	3.59	0.90
22. I can distinguish facts from comments and information about COVID-19.	3.60	0.90
23. I can tell the purpose of the information about COVID-19 found in the media.	3.49	0.95
24. I have discretion in receiving information about COVID-19.	3.47	0.95
25. I make constructive comments on social media about the COVID-19 situation.	3.56	0.95
26. I criticize false news.	3.66	0.93
27. I use various technologies that share news in online media.	3.40	0.98
Total	3.55	0.92

2. Results of assessment on the effectiveness of teaching and learning model

2.1 Comparison of media literacy scores for pre-test and post-test of the sample group with the full scores of 50.

Table 3 Comparison of media literacy scores for pre-test and post-test of the sample group (N= 30)

Media literacy	Pre-test		Post-test		D	t	p
	\bar{x}	S.D.	\bar{x}	S.D.			
Full scores of 50	24.89	5.070	38.1	6.012	13.21	14.962	.000*

*p ≤ .05

According to Table 3, it was found that in the post-test, the samples had a statistically significantly higher overall media literacy than before at the .05 level. The pre-test mean score was 24.89 while the post-test mean score increased to 38.1

2.2 Results of study on the COVID-19 anxiety relief after the experiment of the sample group

From the study on the COVID-19 anxiety relief after the experiment of the sample group of 30 people, it was found that the students had reduced anxiety about COVID-19 at the moderate level ($M=3.17$, $SD=1.03$). When considering each aspect, students mostly thought that COVID-19 affected their daily life. The students were unable to sleep or had sleep-related problems because of the epidemic of COVID-19 and students were worried and uncomfortable to go out ($M =3.48$, 3.41 , 3.37 ; $SD=0.90$, 0.91 , 0.91 , respectively).

Table 4 Results of study on the COVID-19 anxiety relief after the experiment of the sample group

Statements	Total	
	M	SD
1. Students are worried and feel uncomfortable to go out of the houses.	3.37	0.91
2. Students are worried about preparation to prevent contracting COVID-19, such as food hoarding, hoarding of masks, medicines, etc.	2.32	1.50
3. Students cannot sleep or have problems with sleeping because of the epidemic of COVID-19.	3.41	0.91
4. Students think that COVID-19 affect their daily life.	3.48	0.90
5. Students think that they have a high chance of contracting COVID-19?	3.29	0.96
Total	3.17	1.03

CONCLUSION AND DISCUSSION

According to the conditions of media literacy problem and COVID-19 anxiety of university students in Thailand and Vietnam, it was found that the students had social, academic, and economic concerns at moderate level. When considering the aspect of COVID-19 anxiety in each item, the students had social, academic, and economic concerns. Moreover, the students had media literacy problem. This is because anxiety is a factor that affects mood management. When students have anxiety, it affects their lives and studies. This is in accordance with Suparat Pataikrueawan and Thidathip Panrot (2021) describing that the anxiety about academic performance, work, student activities will cause stress to students. When it is accumulated over a period of time, it can affect physical and mental health risks. In addition, Kulpriya Siripanich (2016 cited in Suparat Phaithaikrueawan and Thidathip Panrot, 2021) describes the relationship in society. When there is an undesirable event in society or negative events, the students tend to assess themselves negatively. They focus on unexpected behaviors or negative behaviors. As a result, the students have social anxiety.

According to the comparison of points in the media literacy competency, after the trial, the sample group had the media literacy entirely at the higher level than before the trial with statistical significance. For the research results on the relief in COVID-19 anxiety, after the trial, the sample group was found to have the relief in COVID-19 anxiety. This is because students are interested in survey-based activities and activity sets that include games to stimulate learning in an online format and searching for information from E-Books and video clips. These create incentives to read information from the media and to investigate. Then, it comes to the self-learning process and group work processes. As a result, students can understand the contents of the media. They have the comprehension to know the intentions of the media producers and can comment on the received information. This is consistent with the

discovery method theory which is a learning process that focuses on students to find answers or knowledge on their own. It creates meaningful learning and teaches students to think to help with memory. The knowledge can be linked to application (Kowtrakul, 2011). This agrees with Friesen (2013), Setthapong (2017) and Tientongdee and Ficklin (2021) finding that investigative learning and teaching is the approach to focus on learners. It helps learners to learn effectively in order to develop to have real learning both academic achievement and learning satisfaction. It also helps relieving the anxiety from studying.

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