ACTIVE LEARNING EXTRACURRICULAR ACTIVITIES USING DIGITAL CONTENT TO RAISE AWARENESS OF THAI ARTS AND CULTURE AMONG UNDERGRADUATE STUDENTS

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ABSTRACT

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The purpose of this research regarding the awareness of Thai arts and culture among undergraduate students was to study the need to organize extracurricular activities in the form of active learning using digital content, develop and improve the quality of digital content, compare the awareness of the sample group, and assess satisfaction. Data were collected using a simple sampling method from a selection of 40 undergraduate students in the Thai Music and Dance Club of King Mongkut's University of Technology Thonburi, academic year 2021. After organizing digital content, the demand for such was at the highest level ($\overline{x}$ = 4.62, SD = 0.50). The researchers used the survey results to design and develop three digital content formats: 1) One 2.03-minute clip with descriptive motion graphics, 2) Three infographics in album post form, and 3) One 8.43-minute video clip with subtitles. The digital content formats were then submitted to specialists to assess the quality. The results showed that the quality of the content was at a very good level ($\overline{x}$ = 4.96, SD = 0.20) and the quality of the presentation media was also at a very good level ($\overline{x}$ = 4.69, SD = 0.48). The comparative perception assessment found that the perceptual effect of the sample after watching media with the activity was statistically significantly higher than the perceived effect of the sample before watching the media with the activity at 0.5 points (t-test = 33.84). The satisfaction assessment of the sample group was at the highest level ($\overline{x}$ = 4.74, SD = 0.45).

Keywords: Active learning; digital content; extracurricular activities; undergraduate students

1. INTRODUCTION

Society is increasingly becoming digitally-based, and people are becoming more familiar with computer data communication and the various information systems that facilitate their everyday lives (Kumvang & Jaichalad, 2017). This fact has led to profound changes in perspective regarding communication

education, including the concept of creating new media and online media platforms, changing the perspective from "traditional content" to "modern content," focusing on content design to fit ever-changing contexts, and expanding the formats of content beyond the traditional text format to a variety of styles with an emphasis on storytelling or creating mixed stories (Cheelan, 2021). Digital content is more diverse than content in earlier formats, mainly since it is part of inter-connected industries that drive the world economy. It is a form of communication that also promotes shared experiences and participation (Toongsuwan, 2018). This is particularly true for social media, which is any form of digital media or software based on a web system or a website on the internet that is a social action tool created by communicators for fast and efficient communication between and mutual use by people in the same society. Users can access social media anytime and anywhere; therefore, it is becoming the primary communication tool in the modern era. Users can quickly access information, news, and almost unlimited knowledge (Wongkaewpotong, 2010).

The changes internet technology has brought to society require people to adapt their learning skills to align with those needed for 21st-century life. For most, these skills and most social skills are learned extracurricularly rather than as a part of formal education. Educational institutions generally do not require students to participate in extracurricular activities that provide social knowledge instead of focusing on the regular curriculum (Pitaksongkram, 2018). However, these social skills may be necessary in a student's future career. As a result, students should participate in extracurricular activities along with their learning in the standard curriculum, as extracurricular activities are essential in improving learners' skills through the active learning model (Tienkhaw, 2020). Active learning (AL) is a learning process that, if translated, is learning through practicing or doing. The knowledge that arises is knowledge gained from experience. The key process of organizing learning activities is that students must have the opportunity to act. There must be activities for learners to learn by reading, writing, interacting, and problem-solving, as well as allowing students to use advanced thinking processes such as analysis, synthesis, and valuation. It is a learning process that enables learners to learn meaningfully (Supervision, Monitoring and Evaluation for Educational Provision Group, 2019). It is also in line with the 21st-century learning management principle, which is aimed toward teaching less and learning more, focusing on learning in a way that allows learners to learn by themselves as much as possible (Wannasian, 2015). Therefore, AL extracurricular activities enable learners to acquire knowledge that is extracted from their ideas by having teachers share opinions with learners to truly gain extracurricular understanding.

In the digital era, it has become increasingly difficult for societies to protect and preserve their identities. However, a society's art and culture can reflect its concept of beauty, exquisiteness, customs, traditions, and other cultural aspects of each era of its history. In the Thai context, Thai dance is one cultural aspect that provides enjoyment, exhilaration, and knowledge regarding history and aesthetics. It is considered an invaluable field of art reflecting cultural heritage and traditions passed on from generation to generation; hence, it is considered something for Thais to be incredibly proud of (Ministry of Education, 2008).

Khon is perhaps the most famous form of traditional Thai dance. The Khon Drama Club was established within King Mongkut's University of Technology Thonburi to promote this classical example of Thai art and culture. On February 4, 2020, King Mongkut's University of Technology Thonburi (KMUTT) organized the event "Social Changes, Prosperous Future" to celebrate the 60th anniversary of KMUTT with a show of the Phra Siam Deva Mahamakut Wittaya Maharaj Remembrance Dance. The dance was selected as the University's official dance in remembrance of His Majesty King Mongkut, the Father of Thai Science, and tells a story each year honoring His Majesty King Mongkut. Therefore, this Thai arts and culture tradition can be seen as worthy of preservation and dissemination for the youth.

During the coronavirus (COVID-19) outbreak, the Thai Prime Minister invoked the Emergency Decree on Public Administration in Emergency Situation 2548 BE (2005) to control the spread of COVID-19 from March 24, 2020, with the Emergency Decree being extended to September 30, 2021 (Requirements issued according to Article 9 of the emergency decree on public administration in emergency situation (Issue 33) 2548 B.E., 2021). As a result, formal education throughout the country went primarily online. Following this, the researchers produced digital content presented on social media by distributing it via Facebook Fanpage: Nataya Khon Drama, KMUTT (นาฏยโขนละคร มจธ.). The researchers chose a Facebook channel because it was the most popular form of social media among Thai people, with 93.3% of the population having a Facebook account (Kemp, 2022), allowing the distribution of digital content to reach a wide range of target groups. The researchers also organized extracurricular activities for undergraduate students, which promoted Thai arts and culture via Zoom meetings, in compliance with the coronavirus (COVID-19) prevention measures stipulated by King Mongkut's University of Technology Thonburi during the academic year 2021.

Based on relevant research studies in Thailand, including Sabaiying et al. (2014) and Sinchindawong et al. (2019), it was found that there had been no previous research on organizing AL extracurricular activities

using digital content to promote Thai arts and culture to undergraduate students. For this reason, the researchers became interested in conducting such research.

In addition, it was felt that such activities would help improve communication and self-learning skills, which are increasingly necessary in the 21st century. The activities' essence is practicability while emphasizing self-improvement and social adjustment. Self-learning skills must be continually improved for adaptability and gaining the knowledge, skills, and experience to adequately adjust for oneself and others. Technology is also essential for learning and practicing particular skills at any time using electronic devices. Moreover, it helps students reach content more efficiently to increase knowledge acquisition.

The objectives, hypothesis, and expected benefits of this research are as follows:

1.1 Objectives

This research has set four objectives:
1) To study the need for organizing AL extracurricular activities using digital content.
2) To develop and improve the quality of the digital content.
3) To compare the awareness of the sample group before and after participating in the AL.
4) To assess the satisfaction of the sample group.

1.2 Hypotheses of the study

This research presents three hypotheses:
1) The needs of the sample group for the AL extracurricular activities to raise the awareness of Thai arts and culture is at a high level or above.
2) The quality of the digital content will be at a good level or higher.
3) The level of awareness of the sample group after participating in the activities will be statistically significantly higher than the level of awareness before joining the AL extracurricular activities by 0.5 points.

1.3 Expected benefits

This research has two expected benefits:
1) High-quality digital content will be created and distributed via the Nataya Khon Drama, KMUTT Facebook Fanpage.
2) A guideline will be developed for creating digital AL extracurricular activities to raise awareness of Thai arts and culture among undergraduate students.

2. LITERATURE REVIEW

This research literature review consists of four concepts, namely the concept of digital content, ADDIE Model, the concept of AL, and the concept of extracurricular activities. The authors specifically emphasize concepts that can be applied to this research.

2.1 Concept of digital content

Digital content is information processed through media or content displayed through digital devices such as computers, communication devices, or even television or movie theaters, which currently use digital systems, including social media (Anantasook, 2021). The researchers developed materials in the format of motion graphics, infographics and a video clip in this research.

2.2 ADDIE Model

The ADDIE model is a process for program development. Several models are used by instructional designers and for different teaching purposes. The ADDIE instructional design process can be summarized into five general steps: 1. Analysis, 2. Design, 3. Development, 4. Implementation, and 5. Evaluation (Binbai, 2014). The researchers have applied the ADDIE Model to the entire digital content design and development processes for this research.

2.3 Concept of active learning

AL is a learning management process based on intellectual creativity (constructivism) that focuses on the learning process rather than the subject content. It helps learners connect knowledge or create knowledge by themselves by practicing through media or learning activities with teachers to guide, motivate, or facilitate learners to learn from advanced thinking processes. That is to say, learners analyze, synthesize, and evaluate what they gain from learning activities (Charoenpan, 2016), making learning meaningful and effectively applicable in other situations. Puttana (2019) stated that teachers can manage AL in three steps: 1. Introduction, 2. Teaching, and 3. Conclusion. The researchers have applied the aforementioned three steps of AL activities in organizing the extracurricular activities in the study.

2.4 Concept of extracurricular activities

Extracurricular activities provide an educational or recreational experience that is not part of the regular curriculum at university. Extracurricular activities are not graded and do not happen during normal study hours. Participation must be voluntary as the activities are not compulsory (Bartkus et al., 2012). It has been noted that teenagers tend to improve their skills and abilities through participation in extracurricular activities (Hancock et al., 2012), including leadership skills, interpersonal skills, teamwork skills, presentation skills, and management skills, all of which can be useful in future work and career development in one's field (Han & Kwon, 2018).

3. METHODOLOGY

This study is divided into six parts: Objectives, Hypotheses, Expected Benefits, Scope of Study, Study Tools, and Data Analysis. The first three parts have already been explained. The remaining three are as follows.

3.1 Scope of study

The population used for the study consisted of 79 undergraduate students of the Music and Dance Club, King Mongkut's University of Technology Thonburi, in the academic year 2021. A sample group of 40 people was chosen from the population, with all agreeing to complete the questionnaire in the assessment form, using a simple sampling method (Pattarakhon, 1995). Specialists were obtained using a specific selection method to determine whether they were genuinely qualified and willing to be specialists for the study. Specialists included three content specialists, three presentation media specialists, and three measurement and evaluation specialists.

3.2 Study tools

This research has a total of five study tools to test the suitability of the activities to raise awareness of Thai arts and culture among the undergraduate students:
1) A survey form on the need for organizing the activities;
2) Digital content to raise awareness of Thai arts and culture;
3) A quality assessment form to assess the quality of content and presentation media;
4) An assessment form to assess the awareness of the sample group before and after the activities; and
5) A satisfaction assessment form for the sample group.

3.3 Data analysis

The results of this research were measured using statistical assessment, i.e., mean, standard deviation, and t-test (Khachonsil, 1985):

4.51–5.00	corresponds to	very good/the highest
3.51–4.50	corresponds to	good/high
2.51–3.50	corresponds to	medium
1.51–2.50	corresponds to	low
1.00–1.50	corresponds to	the least

4. RESULTS

The results obtained from the surveys and evaluations of the sample group are divided into six topics: Demand survey results, digital content development results, content quality assessment results, media quality assessment results, the results of comparing the perceptions of the sample before and after the activity and satisfaction assessment results.

4.1 Survey results on the digital content

Table 1: The Mean of the Survey Results of the Sample Group

Assessment list	Analysis results		
	$\bar{x}$	SD	Demand level
1. Preferred media type			
1.1 Motion graphics	4.78	0.48	highest
1.2 Infographics	4.78	0.48	highest
1.3 Video clip	4.73	0.51	highest
Average	4.76	0.49	highest

Table 1: The Mean of the Survey Results of the Sample Group (Continued)

Assessment list	Analysis results		
	$\bar{x}$	SD	Demand level
2. Type of activities needed			
2.1 Online activities via Zoom	4.80	0.52	highest
2.2 Activities in the form of an on-site workshop	3.60	.063	high
2.3 Hybrid events coupled with both online and on-site events	3.70	0.72	high
Average	4.03	0.62	high
3. Content			
3.1 The origin of the Phra Siam Deva Mahamakut Wittayarat Remembrance Dance	4.75	0.49	highest
3.2 The costumes of the Phra Siam Deva Mahamakut Wittayarat Remembrance Dance	4.68	0.53	highest
3.3 The dance poses and lyrics of Phra Siam Theva Mahamakut Wittayarat Remembrance Dance	4.65	0.53	highest
Average	4.69	0.52	highest
4. Visual aspect			
4.1 Use of authentic images and accompanying graphics in the media	4.78	0.48	highest
4.2 Use of colorful images that are pleasant on the eye	4.78	0.42	highest
4.3 Use of letters to describe the content	4.78	0.42	highest
Average	4.78	0.44	highest
5. Sound			
5.1 Clear audio narration explaining the content	4.88	0.33	highest
5.2 Background music in the video	4.78	0.42	highest
5.3 Other sound effects	4.78	0.48	highest
Average	4.81	0.41	highest
Overall average assessment results	**4.62**	**0.50**	**highest**

According to Table 1, the mean of all parts was 4.62, and the standard deviation was 0.50. When compared with the specified criteria, it was found that the overall demand was at the highest level. When considering the needs in each aspect, it was found that media types, motion graphics and infographics had the highest level of demand ($\bar{x}$= 4.78, SD = 0.48). As for activities needed, organized online activities via Zoom had the highest demand ($\bar{x}$= 4.80, SD = 0.52). The content with the highest demand was the origin of the Phra Siam Deva Mahamakut Witthayaraj Remembrance Dance ($\bar{x}$= 4.75, SD = 0.49). With regard to the visual aspect, the highest demand was for the use of authentic images in combination with graphics in the media ($\bar{x}$ = 4.78, SD = 0.48), use of colorful images that are pleasant to the eye ($\bar{x}$= 4.78, SD = 0.42), and use of letters to describe the content ($\bar{x}$= 4.78, SD =0.42). The sound type with the highest demand was the clear audio narration explaining the content ($\bar{x}$= 4.88, SD = 0.33).

As per Table 2, after conducting the demand survey, the researchers proceeded to design and develop digital content to raise the awareness of Thai arts and culture among undergraduate students and subsequently organized and evaluated the extracurricular activities in the form of AL according to the ADDIE Model (Binbai, 2014).

Table 2: Procedure Using the ADDIE Model

Phase 1 Analyze	Analyzing the data obtained from the survey on the needs of the sample group
Phase 2 Design	Studying relevant concepts and theories as a guideline for organizing the AL extracurricular activities using digital content to raise awareness of Thai arts and culture among undergraduate students
Phase 3 Develop	Developing the digital content titled "Phra Siam Deva Mahamakut Wittaya Maharaj Remembrance Dance" in three formats: 1) motion graphics, 2) infographics, and 3) a video clip
Phase 4 Apply	Organizing extracurricular activities via Zoom Time: 90 minutes
Phase 5 Evaluate	Evaluating awareness and satisfaction of the sample group regarding the activities

4.2 Digital content development

The researchers developed digital content to raise the awareness of Thai arts and culture among undergraduate students using three types of extracurricular activities as follows: 1) presentation of the origin of the Phra Siam Deva Mahamakut Wittayarat Remembrance Dance in motion graphics format, descriptive style, (see Figure 1); 2) presentation of the costumes of the Phra Siam Deva Mahamakut Wittayarat Remembrance Dance in an infographics format, album post form (see Figure 2); 3) presentation of the dance poses and lyrics of Phra Siam Theva Mahamakut Wittayarat Remembrance Dance in a video clip format with subtitles (see Figure 3), all of which were distributed through a social network being the Facebook Fanpage: Nataya Khon Drama, KMUTT.

Figure 1: Displaying Digital Content and Presenting in Motion Graphics Format in Descriptive Form—2.03 Minutes, 1 Clip

Figure 2: Displaying Digital Content and Presenting in Infographics Format in Album Post Form—3 Pieces

Figure 3: Displaying Digital Content and Presenting in Video Clip Format with Subtitles—8.43 Minutes, 1 Clip

4.3 Assessment of digital content quality

Table 3: Means of Content Quality Assessment Results

Assessment list	Analysis results		
	$\bar{x}$	*SD*	**Quality level**
1. Content			
1.1 Accuracy of the content	5.00	0.00	very good
1.2 Concise content that is easy to understand and interesting	5.00	0.00	very good
1.3 Content is suitable for the target group	5.00	0.00	very good
1.4 Accuracy of terminology used in digital content	5.00	0.00	very good
Average	5.00	0.00	very good
2. Language use and content illustration			
2.1 The language used is correct and appropriate	5.00	0.00	very good
2.2 Messages used to convey the meaning	5.00	0.00	very good
2.3 Illustrations and content are consistent	5.00	0.00	very good
2.4 Illustrations are appropriate and accurate	4.67	0.58	very good
Average	4.92	0.29	very good
Overall average assessment results	**4.96**	**0.20**	**very good**

According to Table 3, based on the results of quality assessment by specialists regarding the development of digital content to raise the awareness of Thai arts and culture among undergraduate students, it was found that the mean of all parts was 4.96 and the standard deviation was 0.20. When compared with the specified criteria, it can be seen that the overall quality is at a very good level. Considering the quality in each aspect, the content quality had the highest average, at a very good level ($\bar{x}$= 5.00, *SD* = 0.00), followed by the quality of language use and content illustrations, which averaged at a very good level ($\bar{x}$ = 4.92, *SD* = 0.29).

4.4 Media quality assessment

Table 4: Means of Presentation Media Quality Assessment Results

Assessment list	Analysis results		
	$\bar{x}$	*SD*	**Quality level**
1. Letters and use of color			
1.1 Font is easy to read and clear.	4.67	0.58	very good
1.2 Colors and styles of the letters are beautiful.	4.33	0.58	good
1.3 Letters are arranged properly.	4.67	0.58	very good
Average	4.56	0.58	very good
2. Images			
2.1 Images used are appropriate and interesting.	5.00	0.00	very good
2.2 Images used convey the meaning.	4.67	0.58	very good
2.3 Images used are consistent with the content.	4.67	0.58	very good
Average	4.78	0.38	very good
3. Sound			
3.1 Sound pressure level is appropriate.	5.00	0.00	very good
3.2 Music is clear and uninterrupted.	4.33	1.15	good
3.3 Background music is appropriate for the content.	4.67	0.58	very good
Average	4.67	0.58	very good
4. Presentation			
4.1 The presentation style is concise and easy to understand.	4.67	0.58	very good
4.2 The digital content on social media is appropriate.	5.00	0.00	very good
4.3 The organization if the activities via Zoom are appropriate.	4.67	0.58	very good
Average	4.78	0.38	very good
Overall average assessment results	**4.69**	**0.48**	**very good**

According to Table 4, the results of the presentation media quality assessment concerning the development of the digital content to raise the awareness of Thai arts and culture through extracurricular activities indicate that the mean of all parts was 4.69, and the standard deviation was 0.48. When compared with the specified criteria, it was found that the overall quality was at a very good level. When considering the quality in each aspect, it was seen that the quality of images and presentation had the highest average, at a very good level ($\bar{x}$ = 4.78, *SD* = 0.38), followed by the sound quality, which was also at a very good level ($\bar{x}$ = 4.67, *SD* = 0.58) and then the letter and color use that was at a good level ($\bar{x}$ = 4.56, *SD* = 0.58).

4.5 Pre- and post-awareness in Thai arts and culture

Table 5: Comparison of the Sample Group's Awareness

Results of awareness assessment	N	$\overline{x}$	SD	t-test	df	Sig.
Before the activity	40	1.39	0.63	33.84	39	0.00*
After the activity	40	4.87	0.15			

Note. * with statistical significance at the .05 level

According to Table 5, the mean of awareness before participating in the extracurricular activities was 1.39. The standard deviation was 0.63 ($\overline{x}$ = 1.39, *SD* = 0.63). After participating, the mean was 4.87, and the standard deviation was 0.15 ($\overline{x}$ = 4.87, *SD* = 0.15). By comparing the awareness of the sample group before and after watching the media and participating in the activities, it can be seen that the awareness of the sample group after participation was statistically significantly higher by .05 points (t-test = 33.84).
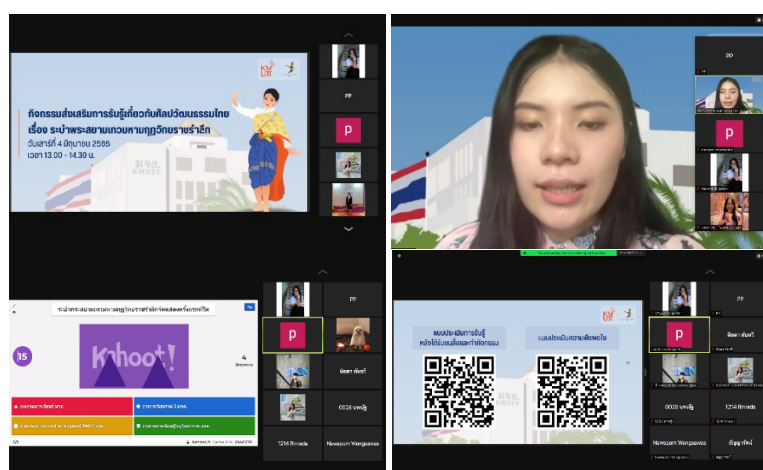

Figure 4: Active Learning Session via Zoom

As seen in Figure 4, the researchers organized a 90-minute session using digital content to raise the awareness of Thai art and culture on the subject of "Phra Siam Deva Mahamakut Wittaya Maharaj Remembrance Dance" for the Music and Dance Club, King Mongkut's University of Technology Thonburi, academic year 2021. The process of organizing the session, according to the concept of Puttana (2019), is shown in Table 6.

Table 6: Process of Organizing Active Learning Extracurricular Activities

Process of organizing active learning extracurricular activities	Activity details
Step 1: Introduction	1) The instructor began interacting with students by asking about their essential knowledge of the Thai arts and culture, titled "Phra Siam Deva Mahamakut Wittaya Maharaj Remembrance Dance" (5 minutes). 2) Students watched the digital content to raise awareness of Thai arts and culture, titled "Phra Siam Deva Mahamakut Wittaya Maharaj Remembrance Dance" (10.46 minutes): a. Motion graphics describing the origin in the descriptive form: time 2.03 minutes, one clip b. Infographic showing the costumes, in album post form: 3 pieces c. Video clip with subtitles showing lyrics and dance moves: time 8.43 minutes, one clip
Step 2: Teaching	3) Students completed a questionnaire in the awareness assessment form before participating in the AL extracurricular activities (5 minutes). 4) The students creatively analyzed connections of all three forms of digital content, Phra Siam Deva Mahamakut Wittaya Maharaj Remembrance Dance, and expressed their opinions (10 minutes). 5) Specialists were invited as speakers to provide knowledge, concepts, and initiatives to raise awareness of Thai arts and culture in the Phra Siam Deva Mahamakut Wittaya Maharaj Remembrance Dance and to exchange experiences with students about the processes of creating dances and about Thai arts and culture (30 minutes). 6) Students were divided into groups to play the KAHOOT game by brainstorming to answer its five questions regarding Thai arts and culture, titled "Phra Siam Deva Mahamakut Wittaya Maharaj Remembrance Dance" (10 minutes).

Table 6: Process of Organizing Active Learning Extracurricular Activities (Continued)

Process of organizing active learning extracurricular activities	Activity details	
Step 3: Conclusion	7)	The instructor and students discussed and summarized what the students have learned about Thai arts and culture, titled the Phra Siam Deva Mahamakut Wittaya Maharaj Remembrance Dance (10 minutes).
Evaluation	8)	Students completed a questionnaire in the awareness assessment form after participating in the session (5 minutes).
	9)	Students completed a questionnaire in the satisfaction assessment form regarding the session (5 minutes).

4.6 Satisfaction assessment of the learning activities

Table 7: Results of the Satisfaction Assessment of the Sample Group

Assessment list	Analysis results		
	$\bar{x}$	SD	Satisfaction level
1. Content			
1.1 Sequencing the content of media and activities	4.75	0.44	highest
1.2 Media content and activities are clear.	4.73	0.45	highest
1.3 Media content and activities are interesting.	4.78	0.42	highest
1.4 Media content and activities are helpful and practical.	4.70	0.52	highest
1.5 Media content and activities are easy to understand.	4.60	0.50	highest
Average	4.71	0.47	highest
2. Picture and sound			
2.1 Images used in the media and activities are colorful.	4.80	0.41	highest
2.2 Images convey the meaning and are easy to understand.	4.75	0.44	highest
2.3 Images and sound are attractive and interesting.	4.65	0.48	highest
2.4 Images and sound of the music are clear and uninterrupted.	4.75	0.44	highest
2.5 Images and sound correspond to the content.	4.81	0.41	highest
Average	4.75	0.44	highest
3. Presentation			
3.1 The presentation style is concise and easy to understand.	4.78	0.42	highest
3.2 The presentation of digital content on social media is attractive.	4.75	0.44	highest
3.3 Organizing activities to promote awareness via Zoom is convenient.	4.73	0.45	highest
Average	4.75	0.44	highest
Overall average assessment results	**4.74**	**0.45**	**highest**

According to Table 7, the overall satisfaction of the learning activities was at the highest level. The mean of all aspects of assessment was 4.74, and the standard deviation was 0.45. When considering each element, it was found that the satisfaction level of all three aspects was at the highest level. To elaborate, the satisfaction with the images and sound was at the highest level ($\bar{x}$ = 4.75, SD = 0.44), the satisfaction with the presentation was at the highest level ($\bar{x}$ = 4.75, SD = 0.44), and the satisfaction with the content was at the highest level ($\bar{x}$ = 4.71, SD = 0.47).

5. DISCUSSION

The results of a survey on the need for the AL among undergraduate students indicate that it was at the highest level of demand ($\bar{x}$ = 4.62, SD = 0.50), which showed that the sample group had the desire for development of digital content in conjunction with the extracurricular activities according to the content and activities arranged by the researchers. The needs of the sample group who wanted to learn in the form of AL and to gain knowledge relating to each aspect of Thai arts and culture align with the research of Sohsawaeng et al. (2020). It was found that problems and the media development model desired by the sample group could be identified after analyzing the demand survey results. This allowed the sample group to respond well and be satisfied, which aligns with the concept of Baanjomyut (2000), which states that when people have met a certain level of need, they will find a higher demand in the next step until they are satisfied.

To raise the awareness of Thai arts and culture among undergraduate students through extracurricular activities in the form of AL, the researchers developed digital content in three formats: 1) The origin of the Phra Siam Deva Mahamakut Wittayarat Remembrance Dance was presented in motion graphics format in descriptive

form, for 2.03 minutes (1 clip); 2) The costumes of the Phra Siam Deva Mahamakut Wittayarat Remembrance Dance were presented in infographics format in album post form (3 pieces); and 3) The dance poses and lyrics of Phra Siam Theva Mahamakut Wittayarat Remembrance Dance were presented in video clip format with subtitles for 8.43 minutes (1 clip). The digital content was disseminated via the Facebook Fanpage: Nataya Khon Drama, KMUTT. The key reason why the researchers chose Facebook as the distribution channel is because Thai people tended to use Facebook the most frequently. A report on digital usage in Thailand, updated as of 2022, shows that Thai people used the internet most to find information (67.6%).

Regarding social media, Thai people used Facebook (93.3%) the most (Kemp, 2022). The researchers believed that distributing digital content via Facebook could reach a broader and more diverse target audience. As for the results of the assessment of the digital content formats by specialists, the content quality was at a very good level ($\overline{x}$ = 4.96, SD = 0.20), and the presentation media quality was also at a very good level ($\overline{x}$ = 4.69, SD = 0.48). The researchers designed the three digital content formats using the ADDIE Model (Binbai, 2014)— All five steps were applied in the design: the analysis, design, development, implementation, and evaluation. After designing the content formats according to the ADDIE Model, the quality of each stage was assessed by specialists before the content was provided to the sample group. This is consistent with the research of Diyen et al. (2021) on the development of interactive learning resources along with content on social networks to promote the Bangchan sub-district of Phetchaburi province through Buddhism, with learning resources and content designed according to the ADDIE Model. The assessment results aligned with the assumptions set, i.e., the content quality was at a very good level ($\overline{x}$ = 4.96, SD = 0.20), and the assessment results of the presentation media quality were at a very good level ($\overline{x}$ = 4.72, SD = 0.45).

The results of the comparison of the awareness of the sample group before and after the AL in this study indicated that the awareness of the sample group after participating in the activities was statistically significantly higher by .05 points. This is because the AL activity processes encouraged students to gain new knowledge by practicing independently. This started with interacting with the students by asking questions about their prior knowledge and having them watch digital content to increase and utilize their knowledge. After that, students were asked to analyze and connect the stories of all three digital content formats and express their views. In addition, speakers were invited to give ideas and exchange experiences. Also, students were divided into groups to play a brainstorming game to obtain answers for the questionnaire. Finally, instructors and students discussed and summarized what they had learned throughout the activities. By participating in the activities, students could interact and experience self-directed learning, analyzing, discussing, and exchanging their opinions with others. This helped the students to gain a variety of new knowledge based on having good exposure, resulting in good recognition. This is consistent with Assael's (2001) concept of consumer perception, which states that perception is the process by which a person is exposed to information, receives it, and understands its meaning. In the opening stage, consumers receive information through their senses. Then, in the receiving stage, consumers share their interest in that stimulus. In the final stage, to understand the meaning, consumers compose and interpret information to make it understandable and have a genuinely accessible awareness. The results of the comparison of the awareness of the sample group are also consistent with the research of Ariffin et al. (2022), which found that after their university education had been completed, students had a statistically significantly higher mean of perception than pre-university at .05 points. Moreover, research by Hui et al. (2021) found that students who participated in extracurricular activities to improve their language skills had higher employer assessment scores than students who did not participate in extracurricular activities. It could, therefore, be concluded that gaining information and knowledge through appropriate learning forms will lead to better outcomes.

As for the results of assessment satisfaction, the satisfaction level was at the highest level ($\overline{x}$ = 4.74, SD = 0.45), likely as a result of the researchers organizing the AL extracurricular activities and developing digital content through evaluation by content and presentation media specialists. The activities and digital media were developed based on the needs of the sample group and by applying the concept of satisfaction of Phantevee (1999), which states that satisfaction is a feeling within a person's mind that varies for every individual depending on how they expect something to be. If a person has high expectations or intentions that are well met, they will be very satisfied. Organizing extracurricular activities in the form of AL using digital content to raise awareness of Thai arts and culture through the analysis of the demand survey results from the sample group and the evaluation by specialists resulted in the sample group being satisfied at the highest level. This is consistent with the research of Haranrad (2014), which found that learners who studied via electronic media were most satisfied. That was because the lessons were designed and developed according to the population's needs, surveying those needs before developing the electronic media. Furthermore, research by Hyun et al. (2017) found that teaching using the AL model positively affected student satisfaction.

Based on the results described above, it can be seen that students gained knowledge from their participation and actions in the AL extracurricular activities and by analyzing what they had learned. The

researchers applied the processes of organizing AL extracurricular activities according to Puttana (2019), consisting of three steps as follows:

1. Introduction (advance organizer), which included discussions linking the content with the basic knowledge that students already had;

2. Teaching (collaborative activities), which included practical activities that let students watch digital content to analyze and share their opinions about what they had seen, ending with games to encourage better awareness and

3. Conclusion (individual summaries), which included discussions among students on the conclusions of the issues they have learned together, enabled students to gain participation, self-learning, analytical, creative thinking, and communication skills.

According to the research of Dalrymple and Evangelou (2006), it was indicated that students who participated in extracurricular activities improved their communication and leadership skills, and these skills will likely enable them to work more efficiently. This corresponds to essential skills required for the 21st century, focusing on promoting knowledge-based learning, practical learning emphasizing skills and capability development, development of life skills and adjusting in society, learning to live in the society peacefully and depending on each other, learning to change to develop thinking, decision-making and self-learning capacity for sustainability, and, lastly, developing the capability to apply knowledge, skills and experience to the benefit of the self and others appropriately (Charungkiatikul, 2018). Boctor (2013) also found that a proactive learning approach can lead to better attitudes of students and increased learning. Huda et al. (2016) found that proactive learning can promote critical thinking, which enables students to integrate theory and practice at a high level and help increase their participation. This would imply that there should be more varied resources to enhance learning, such as multimedia, in the future. This is consistent with the concept of AL of (Charoenpan, 2016) which defined active learning as a learning management process based on intellectual creativity that emphasizes the learning processes rather than the subject content to encourage learners to connect knowledge or create knowledge by themselves by practicing through media or learning activities. As such, extracurricular activities using the AL model will be more effective if learners know how to search for more extensive information, innovate, dare to express opinions and analyze and accept the diversity of the opinions of others, with teachers or instructors facilitating learning management appropriately.

6. CONCLUSION

The results of the assessment of the needs of the sample group revealed a mean of $\bar{x}$= 4.62 and a standard deviation of = 0.50. After conducting a demand survey, a conceptual study was conducted, and the results were analyzed to develop digital content to raise awareness of Thai arts and culture among undergraduate students through AL extracurricular activities. Consequently, three digital content formats were developed: 1). One 2.03-minute clip of descriptive motion graphics, 2). Three infographics in album post form, and 3). One 8.43-minute video clip with subtitles, all of which were evaluated by content and presentation media specialists. The results of the evaluation by the specialists found that the content quality was at a very good level ($\bar{x}$ = 4.92, SD = 0.29), and the presentation media quality was also at a very good level ($\bar{x}$ = 4.69, SD = 0.48). They were then disseminated on social networks via the Facebook Fanpage: Nataya Khon Drama, KMUTT. After that, the extracurricular activity was organized for 40 undergraduate students in the Music and Dance Club, King Mongkut's University of Technology Thonburi, academic year 2021 through a one-time online Zoom meeting of 90 minutes. Following the activity, the awareness of the sample group regarding Thai arts and culture was compared to the awareness of the sample group before they participated in the said activity. Awareness was found to be statistically significantly higher at .05 points (t-test = 33.84). The satisfaction assessment results of the sample group were at the highest level ($\bar{x}$ = 4.74, SD = 0.45).

7. LIMITATIONS

The limitations are divided into two topics as follows:

7.1 For this research, the researchers developed digital content and provided an activity that might only be relevant to some educational institutions. It relates most specifically to three: King Mongkut's University of Technology Thonburi, King Mongkut's University of Technology North Bangkok, and King Mongkut's Institute of Technology Ladkrabang. The content could also be used for temples and theaters associated with Phrabat Somdet Phra Paramenthra Maha Mongkut Phra Chom Klao Chao Yu Hua (Rama IV), the fourth monarch of Thailand under the House of Chakri.

7.2 This research collected data by perception results before and after watching digital content and activity participation. It was divided into two parts: watching content and attending a lecture given by an expert through the Zoom meeting program, which took one and a half hours. There might be a limitation about the time spent watching digital content as the sample group was allowed to watch the content only once, as a rule for the activity. However, the content was published on the social media platform Facebook; therefore, the sample group could rewatch it.

8. SUGGESTIONS

Suggestions are divided into two topics: applying the study results and further research.

8.1 Suggestions for applying the results of the study

It was found that the satisfaction assessment results for the activities was at the highest level. This showed that organizing extracurricular activities in the form of AL allowed students to express their own opinions and exchange experiences, thus creating a limitless diversity of ideas. Therefore, it is vital to understand and interact with the participants while recognizing each person's opinions to create a new body of knowledge to organize appropriate activities for learners. The educational content and learning methods used in this research may not apply the same way to different sample groups and should be appropriately adapted depending on the context.

8.2 Suggestions for further research

It is suggested to study other interesting ways of organizing AL extracurricular activities to raise the awareness of Thai arts and culture among undergraduate students, such as organizing e-exhibitions via spatial.io. It is also suggested to study and analyze the components of AL extracurricular activities suitable for undergraduate students to enhance other skills, such as critical thinking or creative thinking.

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