The Mobile Application via Experiential Learning for Public Relations in Thailand

Pinanta Chatwattana*, Supannee Wangsorn, and Ploypim Promchai

***Abstract*—The mobile application via experiential learning to promote news awareness and proactive public relations is a kind of tool in the form of a mobile application, which is used to both publicize and receive news within Broadcast Major, College of Industrial Technology, King Mongkut's University of Technology North Bangkok, Thailand so that all of the targeted users in Thailand, and especially in this major, have the same understanding. The application is compatible with a variety of display screens with different user interfaces (Responsive Web Design) in both iOS and Android operating systems. The 62 participants in this research, 41 males and 21 females, were derived by means of purposive sampling and divided into two groups: lecturers, current students, and staff at the College of Industrial Technology, King Mongkut's University of Technology North Bangkok, and the general public. Data gathered from these participants were accumulated during the second semester. The research tools consisted of 1) the mobile application via experiential learning to promote news awareness and proactive public relations, and 2) an evaluation form on the satisfaction towards the mobile application via experiential learning to promote news awareness and proactive public relations. The results of this research show that 1) the mobile application via experiential learning to promote news awareness and proactive public relations can be used practically for news awareness and public relations, as it allows users of both iOS and Android operating systems to instantly access information, anywhere and at any time; and it is compatible with a variety of display screens with different user interfaces (Responsive Web Design), and 2) the satisfaction towards the mobile application via experiential learning to promote news awareness and proactive public relations is at a very high level.**

***Index Terms*—Mobile application, experiential learning, news awareness, proactive public relations.**

I. Introduction

At present, the developments in related to information technology are proceeding in a rapid manner. Both government and the private sectors have been applying information technology to develop and manage systems within organizations so that there could be sources of knowledge and learning are available for their staff, complying with a lifelong learning policy and the promotion of self-learning [1]. Today, mobile applications are regarded as highly popular information technology tools that can satisfy the needs of users. In addition, they enable users to learn and work on mobile devices, e.g., smartphones, tablets, notebooks, etc., with installed applications installed thereon and Wi-Fi connectivity as they require internet technology for data connection in order to manage contents and exchange information among users. Accordingly, both public and private organizations increasingly focus on providing information through these portable communication devices [2]. New applications are continually being developed for users and there is no sign of this development coming to a halt. Thus, mobile applications have become increasingly influential in people's lives in the modern world [3]. Kinash *et al*. [4] stated that learners in the digital world are constantly changing; they can learn more comfortably just by using a smartphone. According to research, some learners believe that smartphones are effective tools for m-learning in the classroom because such devices facilitate collaboration, interaction with friends, and sharing of group tasks.

An institution can be developed to become a learning organization once its staff are provided with the freedom to learn, create a variety of knowledge, and share knowledge with others to enhance competence and potential, which are indispensable for business progress and to achieve goals. Experiential learning is a learning model that promotes self-learning by means of practice. In this way, learners will face with challenges and obtain real experiences. This results in new knowledge extended from existing knowledge, which is in line with educational development. The highlight of practice is to confront real challenges or real experiences that can bring about the crystallization of ideas after comprehending new knowledge. Crystalized ideas can be used to extend the existing knowledge or applied in the contexts of learners. Kolb [5] suggested that, to apply experiential learning theory successfully, learners must be subjected to the four stages of the learning cycle in Kolb's Experiential Learning Model (ELM), i.e., 1) Concrete Experience, 2) Reflective Observation of the New Experience, 3) Abstract Conceptualization, and 4) Active Experimentation.

Interactive media is a kind of media that can be applied in instruction management to help learners better understand the lessons better. This is because interactive media can interact directly with learners through computer technology and communication technology. Learners can learn independently and control work on their own. Meanwhile, this type of media can create the real-time interactions and results [6].

Public relations, or media relations, is considered an important job that has a wide scope and a complex system. Public relations can help promote the leadership of both organizations and individuals along with good understanding. Communication is an essential element in doing business and it plays an important role in effectively building a good understanding between the organizations and the target groups effectively. In public relations, many kinds of media

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are used as tools to promote information, such as printed media, video media or multimedia, etc. Public relations on social media can keep people informed and up to date in a very quick manner.

Julaркark *et al*. [7] said that proactive public relations is the communication of opinions, news, and facts to the public in advance with an aim to help enhance the relationship and understanding among agencies, organizations, target groups and people involved, and with the hope of receiving good cooperation to heighten the good image of organizations in return. Public relations comprises of four components: 1) organizations, institutions or agencies that are appointed as sources of news and information to be publicized, 2) press releases which refer to the information that the organizations, the institutions or the agencies want to publicize, 3) public relations media, i.e., the media in the form of spoken words or printed media, etc., that can communicate and convey understanding, and 4) targeted public groups, for instance, a group of individuals who are considered the target for public relations at that specific of time [8].

Broadcast Major is an affiliated department of the College of Industrial Technology, King Mongkut's University of Technology North Bangkok, offering a bachelor's degree program for the past 10 years. However, despite several years of instructional services, the number of students in this department remains the same with a tendency to decrease. This is probably due to the COVID-19 epidemic, the choice of many other educational institutions, and particularly the lack of effective public relations tools. Thus, researchers believe that the public relation via a mobile phone is a tool that can reach a target audience instantly, informing them of news and communicating with them in a way that enables them to have the same understanding.

Referring to the study of the aforementioned theories, documents and problems, it can be clearly seen that the use of information and communication technology plays a vital role in daily life. In particular, in the field of communications and public relations in the digital age, which is a proactive communication tool can make the best use of information technology to respond to the current world situations [6]. Therefore, the researchers had an idea to develop a mobile application via experiential learning and use it as a tool to promote news awareness and proactive public relations.

II. Research Objectives and Hypotheses

The objectives of this research are:

1) To synthesize the conceptual framework of the mobile application via experiential learning to promote news awareness and proactive public relations.
2) To design the mobile application via experiential learning to promote news awareness and proactive public relations.
3) To develop the mobile application via experiential learning to promote news awareness and proactive public relations.
4) To study the results after using the mobile application via experiential learning to promote news awareness and proactive public relations.

The hypotheses of this research are related to the results of the development of the mobile application via experiential learning to promote news awareness and proactive public relations. Therefore, the hypotheses are as follows:

1) The mobile application via experiential learning to promote news awareness and proactive public relations is efficient and it is compatible with a variety of display screens with different user interfaces (Responsive Web Design).
2) Satisfaction towards the use of the mobile application via experiential learning to promote news awareness and proactive public relations is at a high level.

III. Research Methodology

This research is related to the design and development of the mobile application via experiential learning to promote news awareness and proactive public relations and the details thereof are as follows.

A. Participants

The 62 participants, 41 males and 21 females, in this research were derived by means of purposive sampling and the data received from these participants were accumulated during the second semester. The participants included 1) lecturers, staff, and current students at the College of Industrial Technology, King Mongkut's University of Technology North Bangkok, and 2) the general public outside College of Industrial Technology, King Mongkut's University of Technology North Bangkok.

B. Data Collection and Analysis

In order to develop the mobile application via experiential learning to promote news awareness and proactive public relations, the researchers developed and employed the following tools, i.e., 1) the mobile application via experiential learning to promote news awareness and proactive public relations, and 2) an evaluation form on the satisfaction towards the mobile application via experiential learning to promote news awareness and proactive public relations. The statistics used to analyze the data herein are mean and standard deviation.

C. Methodology

The methodology of this research is based on the concept of a system approach related to the ADDIE model [9] as this model contains the widely accepted principles about the design and development of the learning process, which consists of five steps (Analysis, Design, Development, Implement, and Evaluation). Furthermore, to design and develop this mobile application, the methodology relies on the concept of the design and development process of the SDLC technique [10] which includes four stages of system analysis and design (Planning, Analysis, Design, and Implementation). The research methodology can be summarized into four stages as shown in Fig. 1.

Stage 1: The synthesis of the conceptual framework of the mobile application via experiential learning to promote news awareness and proactive public relations is related to the study of theories, articles, and other research relevant to mobile applications, experiential learning, proactive public relations, and satisfaction so as to establish the conceptual

framework of this research.

Stage 2: To design the mobile application via experiential learning to promote news awareness and proactive public relations, the researchers designed the structure and the elements of the developed mobile application by employing the following research tools, i.e., workflow diagram, a structure diagram, and a user interface of Adobe eXperience Design.

Stage 3: Regarding the development of the mobile application via experiential learning to promote news awareness and proactive public relations, the researchers employed the concepts and theories of Kolb's Experiential Learning Model (ELM) of Kolb [5] combined with those of User Experience Design (UXD) [6], [7] in the design and development process of this research.

Fig. 1. Research methodology.

TABLE I: AVERAGE SCORE RANGE AND INTERPRETATION OF RESULTS

Average score range	Interpretation
4.50 - 5.00	Suitability is at a very high level
3.50 - 4.49	Suitability is at a high level
2.50 - 3.49	Suitability is at a moderate level
1.50 - 2.49	Suitability is at a low level
1.00 - 1.49	Suitability is at a very low level

Stage 4: The researchers studied the results and the satisfaction of users after using the mobile application via experiential learning to promote news awareness and proactive public relations during the second semester. Thereby, there were 62 users or participants: 41 males and 21 females, derived by means of purposive sampling and divided into two groups, i.e., 1) lecturers, staff, and current students in the College of Industrial Technology, King Mongkut's University of Technology North Bangkok, and 2) the general public outside College of Industrial Technology, King Mongkut's University of Technology North Bangkok. The tool used in this stage was the questions with five rating scales, and the criteria of evaluation and the interpretation of Kanasutra [11], as shown in Table I.

IV. RESULTS

The results of the development of the mobile application via experiential learning to promote news awareness and proactive public relations can be summarized as below.

A. The Conceptual Framework of the Mobile Application via Experiential Learning to Promote News Awareness and Proactive Public Relations

The results of the study of relevant theories, articles, and other researches to establish the conceptual framework of the mobile application via experiential learning to promote news awareness and proactive public relations are illustrated in Fig. 2.

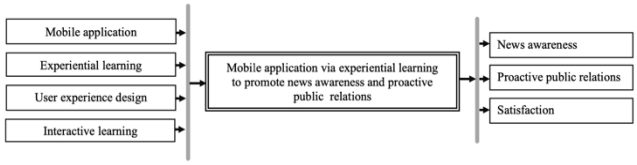

Fig. 2. Conceptual framework.

B. Results of the Design of the Mobile Application via Experiential Learning to Promote News Awareness and Proactive Public Relations

Referring to the design of the structure and the elements of the developed mobile application via experiential learning to promote news awareness and proactive public relations, the researchers designed and employed the following research tools:

1) A workflow diagram of the mobile application via experiential learning to promote news awareness and proactive public relations, as shown in Fig. 3.

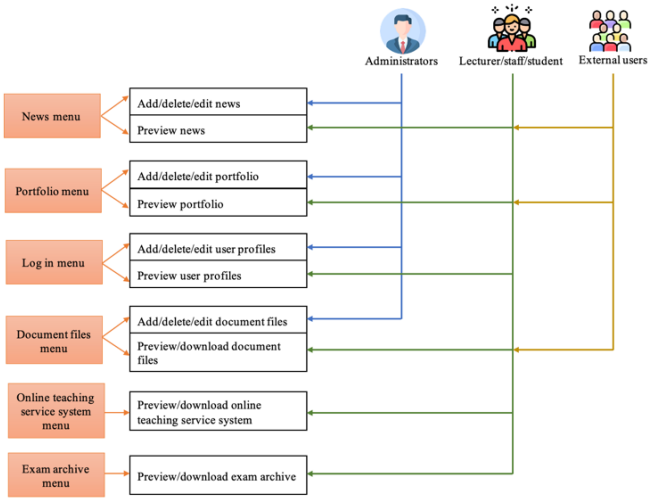

Fig. 3. A workflow diagram of the mobile application via experiential learning.

Fig. 3 represents the workflow diagram of the mobile application via experiential learning to promote news awareness and proactive public relations. The researchers had analyzed and synthesized the demands of users towards this system and found that there are three groups of stakeholders: 1) system administrators who can log in to the system and are authorized to manage news, document files, user profiles, and portfolios 2) lecturers, staff, and current students at the College of Industrial Technology, King Mongkut's University of Technology North Bangkok, who can log in to the system and are authorized to manage personal profiles, access and download portfolios as well as document files, preview information and news, and access the online teaching service system, and 3) the general public or external users with no relation to the College of Industrial Technology, King Mongkut's University of Technology

North Bangkok, who are only allowed to access the system only.

2) Structure diagram of the mobile application via experiential learning to promote news awareness and proactive public relations, is shown in Fig. 4.

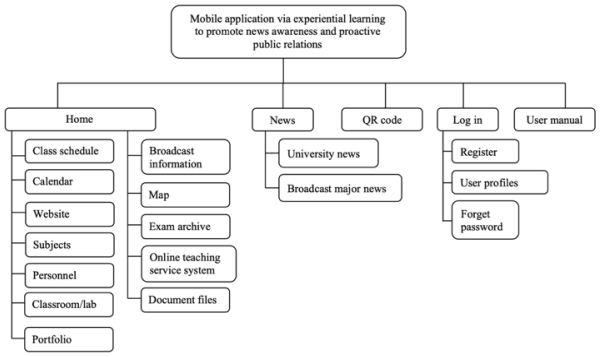

Fig. 4. Structure diagram of the mobile application via experiential learning.

Fig. 4 illustrates the structure diagram of the mobile application via experiential learning to promote news awareness and proactive public relations. This can be employed as an operational guideline for this application, and consists of five main menus: 1) Home, which contains all menus provided in the developed mobile application via experiential learning 2) News, which is designated to provide news and information about Broadcast Major and the university 3) QR Code, where users can use their smartphones to access the information via a QR Code 4) Log in, which is used for registration and logging in to the system, and 5) User manual. The Home page consists of 12 submenus, i.e., Class Schedule, Calendar, Website, Subjects, Personnel, Classroom/lab, Portfolio, Broadcast information, Map, Exam archive, Online teaching service system, and Document files.

3) The researchers designed the user interface of the mobile application via experiential learning by using Adobe eXperience Design, as shown in Fig. 5.

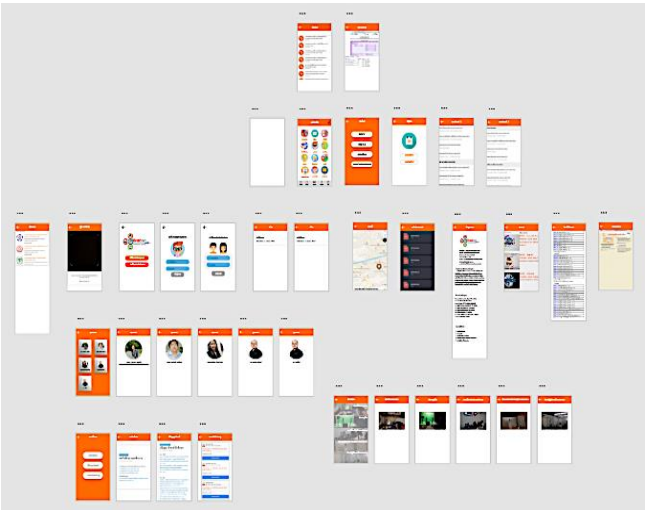

Fig. 5. User interface of the mobile application via experiential learning.

C. Results of the Development of the Mobile Application via Experiential Learning to Promote News Awareness and Proactive Public Relations

The mobile application via experiential learning to promote news awareness and proactive public relations is compatible with a variety of display screens with different user interfaces (Responsive Web Design). This allows users to instantly access information anywhere and at any time via mobile devices such as smartphones, tablets, notebooks, etc. In this stage, after using Adobe eXperience Design to design the user interface to meet users' demands, the researchers employed the concepts and theories of Kolb's Experiential Learning Model (ELM) of Kolb [5] combined with those of User Experience Design (UXD) in the design and development process of this mobile application via experiential learning. This can be seen in Fig. 6.

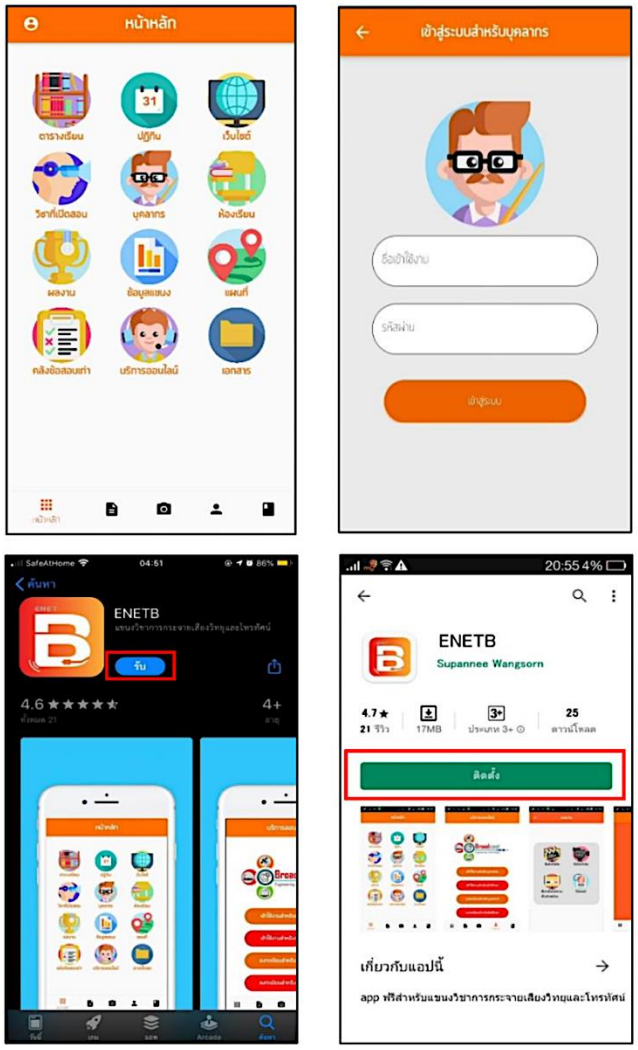

Fig. 6. Mobile application via experiential learning: a case study of Broadcast Major, College of Industrial Technology at King Mongkut's University of Technology North Bangkok, Thailand.

D. Results after Using the Mobile Application via Experiential Learning to Promote News Awareness and Proactive Public Relations

In this study of a mobile application via experiential learning to promote news awareness and proactive public relations, the researchers applied the research tools to review the results after the mobile application had been used by 62 participants: 41 males and 21 females, derived by means of purposive sampling. The said participants were divided into two groups, i.e., 1) lecturers, staff, and current students at the College of Industrial Technology, King Mongkut's University of Technology North Bangkok, and 2) the general

public outside the College of Industrial Technology, King Mongkut's University of Technology North Bangkok. The data received from these participants were accumulated during the second semester and the results are shown in Table II.

TABLE II: RESULTS OF THE SATISFACTION TOWARDS THE DEVELOPED MOBILE APPLICATION VIA EXPERIENTIAL LEARNING

Average score range	Mean	SD	Interpretation
1. Overall satisfaction of the design of the mobile application	4.62	0.57	Very high
2. Overall satisfaction of the efficiency the functions	4.59	0.56	Very high
3. Overall satisfaction of the usability	4.58	0.58	Very high
4. Overall satisfaction of the manual of the mobile application	4.69	0.51	Very high
Overall average	4.63	0.48	Very high

According to Table II, overall satisfaction towards the mobile application via experiential learning to promote news awareness and proactive public relations is at a very high level (Mean = 4.63, SD = 0.48). This can be summarized that users are very satisfied with the use of this mobile application via experiential learning because the user interface is attractive and modernized, and it can respond to the needs of users very well. Additionally, it supports and functions very efficiently with a variety of communication devices.

V. CONCLUSION AND DISCUSSIONS

The findings in this study are in the specific context of the College of Industrial Technology, King Mongkut's University of Technology North Bangkok. The researchers strongly believe that this research offers valuable knowledge and that it can be applied to enhance the quality of learning and public relations via mobile applications. In particular, during the COVID-19 pandemic, information technology was necessary because it could be used as knowledge and learning resources that could help develop and manage the systems within organizations. According to this research, the results, along with the discussions, can be summarized as follows.

1) The mobile application via experiential learning to promote news awareness and proactive public relations is a tool used for public relations within Broadcast Major, College of Industrial Technology, King Mongkut's University of Technology North Bangkok, Bangkok. The application is compatible with a variety of display screens with different user interfaces (Responsive Web Design) with both iOS and Android operating systems, allowing users to instantly access information anywhere and at any time. The stakeholders of the developed mobile application via experiential learning were divided into three groups: a) system administrators b) lecturers, staff, and current students at the College of Industrial Technology, King Mongkut's University of Technology North Bangkok, and c) the general public or external users with no relation to the College of Industrial Technology, King Mongkut's University of Technology North Bangkok.
2) Referring to the results after using the mobile application via experiential learning to promote news awareness and proactive public relations, the researchers applied the research tools to study the results after this mobile application had been used by 62 participants derived by means of purposive sampling. The results can be concluded as follows: a) The design and development of the mobile application via experiential learning to promote news awareness and proactive public relations was widely accepted and used efficiently as a tool for news awareness and public relations within Broadcast Major, College of Industrial Technology, King Mongkut's University of Technology North Bangkok, Thailand. Not only that, but the application is also compatible with a variety of display screens with different user interfaces (Responsive Web Design) of both iOS and Android operating systems, allowing users to instantly access information anywhere and at any time. This complies with the research of Moor *et al*. [12], who stated that the learning based on an experiential learning cycle enables learners to enhance their learning and gain such ultimate benefits that they will eventually achieve erudition. Furthermore, it is in accordance with the research of Phiraphon [13], who mentioned that user experience design can improve service quality as the design process focuses on the significance of users' feelings and problem-solving. It also places an emphasis on concepts, methods, user interfaces, and responses that are clear and effective. b) Satisfaction towards the mobile application via experiential learning to promote news awareness and proactive public relations is at a very high level (Mean = 4.63, SD = 0.48). This is in line with the research of Kabataş [14], who said that the use of smartphones or m-learning technology for instructional or collaborative activities can increase the enjoyment of learning. Also, this method enables users to quickly extract and access information through social media networks, increasing their satisfaction with proactive information awareness by means of digital technology. In addition, this is consistent with the research of Başerer [15], who stated that the use of applications, in today's education, in learning activities is considered an effective way to help learners become more enthusiastic about learning, which contributes to participatory learning in the teaching process. Additionally, it corresponds to the research of Jularlark *et al*. [16], who said that public relations through an application on smartphones and tablets combined with an in-depth interview can enhance the satisfaction towards news awareness and proactive public relations.

This research can be used as a guideline for the design and development of mobile applications designated to enhance the quality of learning and public relations, especially during the COVID-19 epidemic, so that users can stay informed at all levels, anywhere and at any time, with just a mobile device. The concept of a system approach related to the ADDIE model [9] and the concept of the design and development

process of the SDLC technique [10], as well as the theories of experiential learning, have been applied in the planning, design, and the development of this mobile application, with an ultimate goal to promote news awareness and proactive public relations within an organization. Meanwhile, it is expected that such an application is also able to increase the satisfaction towards news awareness and proactive public relations in Broadcast Major as well.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Pinanta Chatwattana develops the main idea of this research, wrote and compose the manuscript, developing the methodology and conceptual framework. Supannee Wangsorn and Ploypim Promchai develop the mobile application and studied the results. The three authors have approved the final version of this manuscript for publication.

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