Higher Education Studies; Vol. 13, No. 3; 2023
ISSN 1925-4741 E-ISSN 1925-475X
Published by Canadian Center of Science and Education

Development of the Learning Package for the Living of the Elderly in Kanchanaburi and Suphanburi Province

Photjanee Sukchaona[1], Wiyada Pollachai[2] & Supapong Sukchaona[3]

[1] Faculty of Science and Technology, Kanchanaburi Rajabhat University, Kanchanaburi, Thailand

[2] Faculty of Management Science, Kanchanaburi Rajabhat University, Kanchanaburi, Thailand

[3] Faculty of Humanities and Social Science, Kanchanaburi Rajabhat University, Kanchanaburi, Thailand

Correspondence: Supapong Sukchaona, Faculty of Humanities and Social Science, Kanchanaburi Rajabhat University, Kanchanaburi, Thailand. Tel: 66-97-043-5687. E-mail: supapong@kru.ac.th

Received: March 31, 2023 Accepted: July 15, 2023 Online Published: August 4, 2023

doi:10.5539/hes.v13n3p128 URL: https://doi.org/10.5539/hes.v13n3p128

Abstract

The research aimed to 1) develop a learning package for the living of the elderly, 2) assess the quality of the developed learning package, 3) assess the technology acceptance of the developed learning package, and 4) find out the elderly's satisfaction towards the developed learning package. The learning package was developed following the 5-step ADDIE model. The learning package ran under the Glide Application on the YouTube platform and was accessed through mobile phones. The learning package consisted of seven modules which were analyzed and designed based on the study and analysis from the target group of 1,044 persons residing in provinces included in Kanchanaburi Rajabhat University's service areas, which are Kanchanaburi and Suphanburi, Thailand. The results of the learning package development was composed of 3 sub-modules, which were learning module 2) media module and 3) assistance module. The evaluation result by specialists found that the developed learning package was of a very good quality. The result of a 12-week learning package trial among the target group of 60 persons found that the assessment result of technology acceptance according to the TAM concept in all four aspects was at a good level, and so did the satisfaction of the target group. This indicated that the developed of learning package could be used effectively. That is, it helped support a lifelong learning for the elderly, allowing them to live in modern society with value and maintain a good quality of life in the long run.

Keywords: learning package for the living of the elderly, technology acceptance following (TAM)

1. Introduction

The rapid aging of populations around the world presents an unprecedented set of challenges: shifting disease burden, increased expenditure on health and long-term care, labor-force shortages, dissaving, and potential problems with old-age income security. (David E. Bloom and others, Daedalus, 2015), furthermore Education is important for the elderly because it stimulates mental growth, enhance physical skills, can lead to creativity, and provide opportunities for socializations. Learn more about encouraging seniors to further their education. (Scott Grant, and others, Graying with Grace, 2022).

According to the United Nations, the aging structure of the world's population will still be constantly changing due to the increase in people's life expectancy and the decline in their fertility rate. The number of the elderly worldwide is expected to more than double in the next three decades, adding the world population up to 1.5 billion by 2050. (Shanas, E., 1982) & Riley, 1985) Thailand is regarded as one of the countries with a rapidly growing aging population. In 2021, National Statistical Office found that Thailand had the elderly population of 13,358,751 (19.6% of the total population). It was divided into 5,974,022 males (44.7%) and 7,384,729 (55.3%) females. Thailand is thereby clearly entering an aging society and is likely to become a complete aged society by 2031. (Department of Mental Health, 2020 & National Statistical Office of Thailand, 2020).

The elderly can be classified according to their ability to perform daily activities into 3 groups. These include 1) the bed bound group, which is the elderly who are unable to help themselves, 2) the home bound group, which is the elderly who can partially help and take care of themselves, and 3) the social bound group, which is the elderly who are self-reliant and able to help others. (Lakatta, 1985 & Manton, 1987).

The Thai government has formulated measures to support the care of the elderly to have a better quality of life

by developing strategies for the preparation to enter an aging society. Such measures are considered one of the main strategies in the tenth national economic and social development plan, coming up with the second national plan on the elderly (2002-2021). This reflects that the government and related organizations must be ready to provide care and assistance to the elderly, such as healthcare services, social welfare, quality of life promotion, and lifelong learning management (Foundation of Thai Gerontology Research and Development Institute, 2021).

The national policy reflects the importance and framework in the management of lifelong learning for the elderly, which is a concept that aims to help the elderly to achieve self-reliance and maintain a normal social life. The policy of lifelong learning management can be applied to people of all genders and ages and in every community and situation. The learning management focuses on exploiting potentials and values of the elderly to create new knowledge through the exchange of knowledge among each other, leading to the elderly's better quality of life.

The researcher, as a lecturer at Kanchanaburi Rajabhat University, Kanchanaburi in the group of local community development universities, is fully aware of the need to provide learning for the elderly within service areas in response to the government policies. It is therefore essential to develop an application easily accessed via mobile phone as a learning package model for the living for the elderly to self-study on various issues such as law, religious teachings, mental training and development, exercise, and other important topics. Such knowledge will help support the elderly to obtain a better quality of life and reduce their dependence on others, enabling them to become elderly citizens who can continue to live happily in a digital society.

2. Research Objectives

The objectives of this study were as follows:

1) To develop a learning package for the living of the elderly
2) To assess the quality of the developed learning package.
3) To assess the technology acceptance of the developed learning package
4) To find out the elderly's satisfaction towards the developed learning package.

3. Research Scopes

3.1 Content of the Learning Package for the Living of the Elderly

The learning package was designed and developed based on the content analysis and prioritization following the result obtained from the target group questionnaire in the sub-steps of the analysis.

The learning unit was divided into 7 items as follows: 1) post-retirement behaviors, which include holistic health, the elderly's health behaviors, etc. 2) financial planning, which includes financial planning, saving, investment, etc. 3) laws that the elderly should know, which include master law, the Constitution of the Kingdom of Thailand, laws supporting policies on the elderly, inheritance law, last will and testament, legal transactions, and contracts, etc. 4) listening to Dhamma preaching, which includes prayer books and various Buddhist chants. 5) mindfulness training, which includes meditation practice, calmness, and concentration, etc. 6) dhamma storytelling, which includes telling Buddhists fairy tales by renowned speakers. and 7) exercise, which includes exercise postures, exercise recommended for the elderly, etc.

3.2 The Program Used to Develop the Learning Package

The program used to develop the learning package is Glide Application, and support programs include Google sheet, Adobe PhotoShop and Adobe After Effects. The learning package was developed under the YouTube platform which was compatible with all mobile phone operating systems, including tablets, laptops, and personal computers.

3.3 The Population

The population consisted of 543 elderly persons aged over 60 living in the municipality area of Lat Ya subdistrict, Mueang district, Kanchanaburi province, and 501 elderly people aged over 60 living in the municipality area of Thao U Thong subdistrict, U Thong district, Suphanburi province. The total population was of 1,044. The population of 30 per area, totaling 60, was recruited as a target group to try out the developed learning package through a specific selection method based on the following criteria: 1) being literate 2) being able to help themselves and others 3) being able to perform daily activities 4) being able to interact with others outside the house, and 5) being able to use technology and social networks.

3.4 The Research Trial

The research trial lasted for 3 months (12 weeks). After that, data were collected using questionnaires and

interviews with target groups on various issues to summarize the research results based on the variables defined as follows:

The independent variable is the learning package for the living of the elderly, and the dependent variables were 1) Technology acceptance of the developed learning package by the elderly using a questionnaire following the TAM (Technology Acceptance Model) (David, 1987 & Bagozzi, 2007) concept and 2) The satisfaction of the elderly towards the developed learning package.

4. Research Methodology

The research was conducted following the System Approach, consisting of 5 steps as follows (Molenda, M., 2015 & Kurt, S., 2018):

4.1 Analysis

Documents and literature related to the context of the research were studied and analyzed to establish guidelines for the development of a learning package for the living of the elderly. In the first sub-step, a questionnaire was drawn up to study the technology use behaviors of the 1,044 targeted elderly residing in Kanchanaburi and Suphanbuuri provinces. It was afterwards used to ask for general information, health information, and technology behaviors to utilize the data obtained from the questionnaire as terms and conditions for the development of the learning package for the living of the elderly. The results of the questionnaire found that the needs of the elderly were as follows:

1) Healthcare to prevent disease in the elderly, which accounted for 72.71%

2) Knowledge about the Act on the Elderly, which accounted for 54.96%.

3) Needs for planning and creating a savings plan, which accounted for 51.05%.

The data were then used to create a list of application features and requirements for the next step in the design of the learning package.

4.2 Design

The researcher designed the structure of the learning package which included learning content, links, interactions, and other relevant parts, and organized them into seven items based on the results of the analysis process so that the developed learning package could run under the YouTube platform. At this stage, the researcher designed three questionnaires to be used in the study, which were the quality assessment of the learning package for the living of the elderly (18 items), the technology acceptance of the learning package according to the TAM concept (24 items), and the satisfaction on the use of the learning package (8 items). All questionnaires were reviewed on the issue of content validity and objectivity by 5 specialists.

4.3 Development

The development of the learning package for the learning of the elderly used Glide as the main program to manage the learning package, and used support programs that were Google Sheet, Adobe Photoshop and Adobe After Effects. It worked on the YouTube platform, making it an application compatible with all mobile phone operating systems. including tablets, laptops, and personal computers. The researcher self-learned the learning package unit by unit to confirm an accuracy and provide further improvement. Three questionnaires employed as a research tool were revalidated before both adding into Google Forms and printing out as a document to use with various groups of targets.

4.4 Implementation

The researcher ensured the validity of the learning package for the living of the elderly by applying it to the target group of the 30 living in Lat Ya sub-district, Kanchanaburi province, and 30 living in Thao U Thong sub-district, Suphanburi Province. The target group of 60 elderly persons are those who were literate, capable of helping themselves and others, capable of performing daily activities, capable of going outside to interact with others in the society, and capable of using technology and social networks in daily life according to the required criteria. The whole process lasted 3 months or 12 weeks in total. The researcher presented and demonstrated how to use the learning package, answered questions various issues, as well as regularly monitored the use from the target group.

4.5 Evaluation

The quality assessment of the elderly's living learning package was carried out after the initial development and further improvements with agreement from all 5 specialists. The questionnaire was a 5-scale rating assessment consisting of 8 content and operational questions, and 10 technical and media production questions.

The Technology Acceptance Assessment of the developed learning package by a target group of 60 persons after a 12-week trial made use of a 5-scale rating questionnaire. The 24-item questionnaire comprised 3 items on usefulness, 4 items on ease of use, 4 items on enjoyment, and 13 items on media richness.

The satisfaction assessment of the developed learning package by the target group of 40 persons after a 12-week trial made use of a 5-scale rating questionnaire consisting of 8 statement items. The scores used in the evaluation of all three questionnaires were based on the mean and the standard deviation of which interpretation were as follows.

4.51 - 5.00 means quality/acceptance/satisfaction is at a very good level.

3.51 - 4.50 means quality/acceptance/satisfaction is at a good level.

2.51 - 3.50 means quality/acceptance/satisfaction is at a moderate level.

1.51 - 2.50 means quality/acceptance/satisfaction is at a low level.

1.00 - 1.50 means quality/acceptance/satisfaction is at a very low level.

5. Research Result

The research results were as follows:

1. The learning package for the living of the elderly working on the Glide application under the YouTube platform accessible via all mobile phones operating systems consisted of 3 sub-modules as follows:

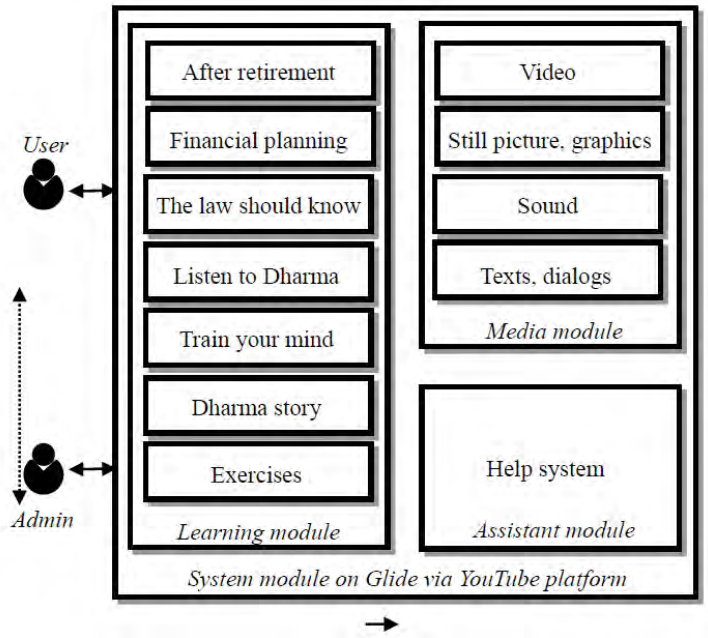

Figure 1. Structure of the learning package for the living of the elderly

1) The learning module consisted of 7 learning units that were post-retirement behaviors, financial planning, laws that the elderly should know, mindfulness training, Dhamma storytelling, and exercise. Each unit was composed of overall 36 learning sub-units.

2) The media module consisted of various media such as videos, images, graphics, audios and text/conversations according to what was required in each learning module.

3) The assistance module allowed users to ask questions or ask for help in case of various problems through their mobile phones.

System administrators can manage, edit, delete, as well as add data into each learning unit under the Glide application on the YouTube platform.

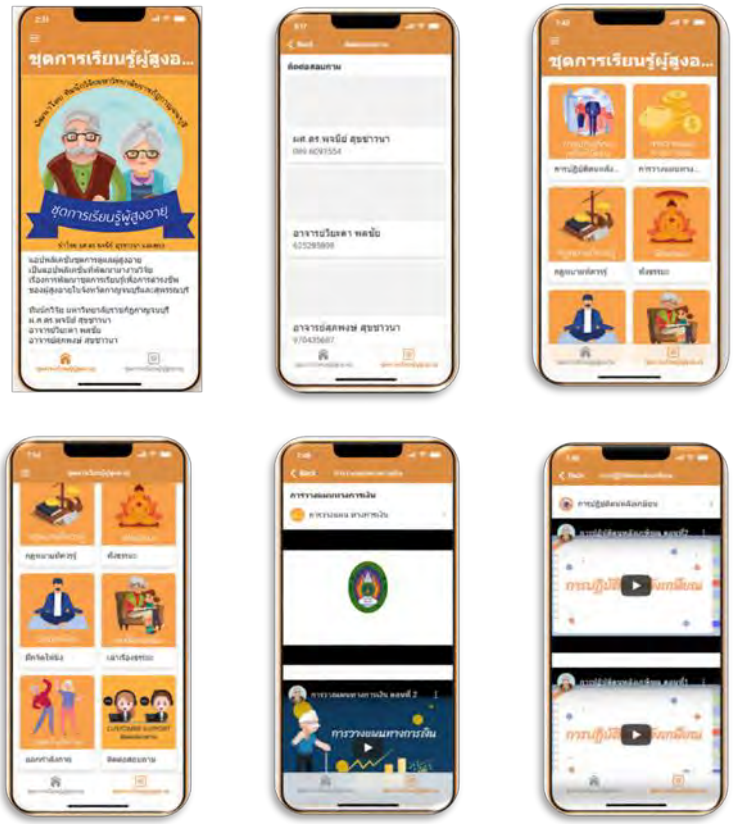

Figure 2. Screen of the learning package for the living of the elderly

2. The quality assessment result of the developed learning package for the living of the elderly

Assessed by 5 specialists, the overall quality of the learning package was at a very good level. When classified into each aspect, content and operation quality was at a very good level, and the media production technique was at a good level as shown in table 1.

Table 1. The quality assessment result of the developed learning package for the living of the elderly (n = 5)

Aspects	Comments		Meaning
	Mean	SD.	
Content and operation	4.60	0.55	Very good
Media production	4.48	0.27	Good
Overall	4.54	0.41	Very good

3. The technology acceptance assessment result of the developed learning package for the living of the elderly based on TAM.

Assessed by the target group of 60 persons, the technology acceptance assessment of the developed learning package for the living of the elderly following the TAM concept was at a good level on average. When classified into each aspect, all four showed similar level of technology acceptance at an average between 4.43-4.48 as shown in table 2.

Table 2. The technology acceptance assessment result of the developed learning package for the living of the elderly based on TAM (n = 60)

Aspects	Technology Acceptance		Meaning
	Mean	SD.	
Usefulness	4.47	0.59	Good
Ease of use	4.45	0.56	Good
Enjoyment	4.43	0.60	Good
Media richness	4.48	0.60	Good
Overall	4.46	0.59	Good

4. The satisfaction assessment result of the developed learning package for the living of the elderly

The satisfaction assessment result of the developed learning package for the living of the elderly was obtained from the follow-up with the target group of 40 persons after 30 days of use. The results showed that the overall score was the highest, with the mean scores of all 8 items ranging from 4.35 to 4.70. The top 3 most satisfying items among the target group were 1) the enjoyment of using the learning package 2) the sequence of learning units in the developed learning package for the living of the elderly, and 3) the loading speed of information in the developed learning package for the living of the elderly

6. Conclusion and Discussion

Nowadays, the number of elderly people in the world is increasing rapidly due to the healthcare system development. It is therefore important to realize the importance of the elderly's quality of life. Each country thereby establishes measures to take care of the elderly to improve their quality of life. One of the key concepts is lifelong education that focuses on unlocking potentials and values of the elderly to create new knowledge through the exchange of knowledge among each other. This study, therefore, developed a learning package for the living of the elderly to be used as a model learning package for those living in the western region of Thailand, which is under the service area of Kanchanaburi Rajabhat University. The developed learning package, accessible from mobile devices, ran under the Glide application on the YouTube platform. The learning package consisted of 7 learning units comprising 36 topics that could be conveniently added, edited, deleted, and managed. After completely developed, the learning package was used by a target group of 60 persons for 12 weeks. The results showed that the learning package quality was at very good level. The target group who tried out the learning package showed a very good level of technology acceptance following the TAM concept. In addition, the target group was very satisfied, indicating that the learning package developed in this study can be effectively applied to the elderly in general. Every development process strictly followed the ADDIE concept, a closed learning package development cycle. That is, the development started from the study and analysis of the relevant data, resulting in a clear and reliable conclusion.

Acknowledgements

We would like to thank Kanchanaburi Rajabhat University, all of persons residing in provinces included in Kanchanaburi Rajabhat University's service areas, which are Kanchanaburi and Suphanburi, Thailand and Professor Dr.Monchai Tiantong who is in charge of research advisor. Further more I would like to take this opportunity to express my gratitude to all of my group members. The research would not have been successful without their cooperation and inputs.

References

Bagozzi, R. P. (2007). *The Legacy of the Technology Acceptance Model and a Proposal for a Paradigm Shift2007 – AISeL e-book*. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.361.5863&rep=rep1&type=pdf

David E. Bloom and others. (2015). Global Population Aging: Facts, Challenges, Solutions & Perspectives. Daedalus. https://doi.org/10.1162/DAED_a_00332

Davis, F. (1987). *User Acceptance of Information Systems: The Technology Acceptance Model (TAM)* (1st ed.). [ebook] Ann Arbor: University of Michigan. Retrieved from http://deepblue.lib.umich.edu/bitstream/handle/2027.42/35547/b1409190.0001.001.pdf?sequence=2&isAllowed=y

Department of Mental Health, Ministry of Public Health, Thailand. (2020). *Thailand's steps towards the 'aging society' perfectly.* DMH Annual Press, Bangkok, Thailand.

Foundation of Thai Gerontology Research and Development Institute. (2021). *Situation of the Thai older persons 2021*. Thaitgri, Bangkok, Thailand. Retrieved from https://thaitgri.org

Kurt, S. (2018, June 7). *ADDIE model: instructional design.* Retrieved from https://educationaltechnology.net/the-addie-model-instructional-design/

Lakatta, E. G. (1985). *Health, disease, and cardiovascular aging.* America's Aging: Health in an Older Society. Committee on an Aging Society, Institute of Medicine and National Research Council. Washington, D.C.: National Academy Press. pp. 73-104.

Manton, K. G., Stallard, E., Woodbury, M. A., Tolley, H. D., & Yashin, A. (1987). Grade of membership techniques for studying complex event history processes with unobserved covariates. In C. Clogg (Ed.), *Sociological Methodology*. San Francisco: Jossey-Bass. https://doi.org/10.2307/271036

Molenda, M. (2015, February 19). In search of the elusive ADDIE model. *Performance Improvement, 54*(2), 40. https://doi.org/10.1002/pfi.21461

National Statistical Office of Thailand, (2020). *The 2021 Survey of the older persons in Thailand.* NSO Press. Retrieved from https://www.nso.go.th/sites/2014/Pages/e-Book/e-Book_NSO.aspx

Riley, G., Lubitz, J., Prihoda, R., & Stevenson, M. A. (1985). *Changes in the Distribution of Medical Expenditures Among Aged Enrollees 1969 to 1982*. Working Paper Series No. 85-12. Washington, D.C.: Health Care Financing Administration.

Scott, G. and others. (2022). *The Importance of Education for the Elderly (& How to Encourage Them), Graying with Grace.* Retrieved from https://www.grayingwithgrace.com/importance-of-education-for-elderly

Shanas, E. (1982). *National Survey of the Aged*. DHHS Pub. No. (OHDS) 83-2045. Washington, D.C.: U.S. Department of Health and Human Services.