

DEVELOPMENT OF A DISTANCE LEARNING PROGRAMME TO ENHANCE HEALTH AND PROMOTE LEADERSHIP AMONG THE ELDERLY IN BANGKOK AND VICINITY

Premruetai Noimuenwai

Sukhothai Thammathirat Open University, School of Nursing, Thailand
Premruetai3@gmail.com

Aree Cheevakasemsook

Sukhothai Thammathirat Open University, School of Nursing, Thailand
areecheeva@gmail.com

Supattra Changsupan

Sukhothai Thammathirat Open University, School of Nursing, Thailand
Maprangwan19@gmail.com

Wanipa Tabtaeng

Thaksin University, Faculty of Nursing, Thailand
wanipatrang@gmail.com

ABSTRACT

The aim of this study was to develop and evaluate a distance learning programme for the elderly to enhance their health and promote leadership capacity. The sample comprised the following groups: (1) a purposive sample of 5 leaders of elderly groups and 2 academic scholars participating in a focus group for designing a distance learning programme, and (2) 74 voluntary members of elderly groups and health care providers in Bangkok, Nonthaburi province, and Pathum Thani province who participated in the programme evaluation. The research procedures were classified into 5 phases: (1) analysis of the elderly needs, (2) design of a distance learning programme, (3) development of learning resources, (4) implementation of the programme, and (5) evaluation of the programme. The programme evaluation comprised 3 parts, the Achievement test of the Distance Learning Programme, the Team Leadership Skills Inventory, and the Distance Learning Programme Satisfaction Survey. The pilot distance learning programme allowed modifications of the programme before the implementation. The implemented programme was then evaluated. The findings indicated that participants rated their health promotion knowledge and team leadership skills after completing the distance learning programme statistically higher than before the use of the distance programme at .001 level of significance. They also rated their satisfaction with the distance learning programme at a high level. The distance learning programme was a successful method for enhancing elderly participants' health knowledge and promote leadership capacity. It also improved their personal, social well-being and lifelong learning skills.

Keywords: Distance Learning Programme, Health and Promote Leadership, Elderly

INTRODUCTION

In the ASEAN region, Thailand is second to Singapore in its percentage of population aged 60 and above (United Nations Economic and Social Commission for Asia and the Pacific [UNESCAP], 2017). The number of Thais in this age group is close to 10.7 million, which makes up 16 percent of the total population in 2015. This figure is projected to reach more than 20 million by 2035 (Knodel, Teerawichitchainan, Prachuabmoh, & Pothisiri, 2015). Most elderly Thais live with their family members instead of nursing homes and residential facilities unlike people in most Western countries (United Nations [UN], 2002). Due to social transformation towards modernisation and individualism, they tend to live alone in their community. Living alone heightens physical and mental distress as well as social isolation (Teerawichitchainan, Knodel, & Pothisiri, 2015).

Although, medical advancements help people live longer, the elderly are likely to experience health decline with a risk of injuries and chronic conditions including non-communicable diseases such as hypertension, diabetes, stroke, cancer, arthritis, and dementia (World Health Organization [WHO], 2007; Chappell & Cooke, 2010). Evidence illustrated that progression of ageing reduces physical mobility, cognitive functioning, social activities and income-earning opportunities, which result in lower quality of life (Pinto & Neri, 2013). Those facing disability also tend to be more depressed and socially isolated.

The Thai government has focused on preparation for healthy ageing. The national health care policy proposes self-care and a community-centred approach towards promoting health and well-being at all ages (Vithayachockitikhun, 2006). Community involvement plays a major role in response to primary health care policies. Due to health care limitations, village health volunteers are trained to address common health problems under supervision of health care personnel at primary care units. In reality, senior citizen clubs and primary care units share responsibility in promoting health care for the elderly. Senior citizen clubs and village health volunteers may take greater responsibility in assisting the elderly in a community in several ways such as home visits, counselling and health education.

Many healthy older adults have applied to be a member of a local senior citizen club or other informal elderly groups in their community. However, there are many others who did not recognise the importance of a senior citizen club (Lertputtipongporn, 2010). Activities of a senior citizen club are largely to encourage members to participate in physical and social activities regularly. However, some senior citizen clubs are unsuccessful due to insufficient cooperative skills, inadequate networks, financial problems and inadequate social support. The leaders of these clubs need to learn and practise leadership skills which cover human relationships, communication, administration, problem-solving, conflict management and teambuilding. They also need to update their knowledge in order to have an effective team which could initiate and sustain health promotion activities (Nosrida, 2010).

In view of limitations of health care personnel, federal resources and health care access, a distance learning system could be used. This study aimed to develop and evaluate a distance learning programme for the elderly in Bangkok, Nonthaburi province, and Pathum Thani province in Thailand in order to enhance health promotion knowledge and team leadership skills. The ADDIE model (Peterson, 2003) was used as a guide for developing an effective distance learning programme in this study by integrating a distance learning system and a face-to-face intensive training workshop. Games and simulations were applied through the distance learning programme to empower the elderly to increase their engagement. The developed distance learning programme was evaluated to ensure its effectiveness and level of satisfaction of the programme.

RESEARCH OBJECTIVES

The study followed a research and development design, with the purposes of:

- (1) Developing a distance learning programme to enhance health and promote leadership skills among the elderly in Bangkok and its vicinity.
- (2) Evaluating the implementation of the programme in enhancing health and promoting leadership skills among the elderly.

THEORETICAL FRAMEWORK

The distance learning programme was developed in this study based on the ADDIE model (Peterson, 2003) in order to enhance the health and promote leadership skills of the elderly in Bangkok and its vicinity. This is illustrated in Figure 1. The ADDIE model is an instructional systems design which illustrates a systematic developmental process of a training curriculum which can be widely used in any organisation to ensure quality educational courses. The model was first developed by the Florida State University. It contains five phases: 1) analysis of the needs of the elderly; 2) design of a distance learning programme; 3) development of learning resources; 4) implementation of the distance learning programme; and 5) evaluation of the distance learning programme's learning outcomes.

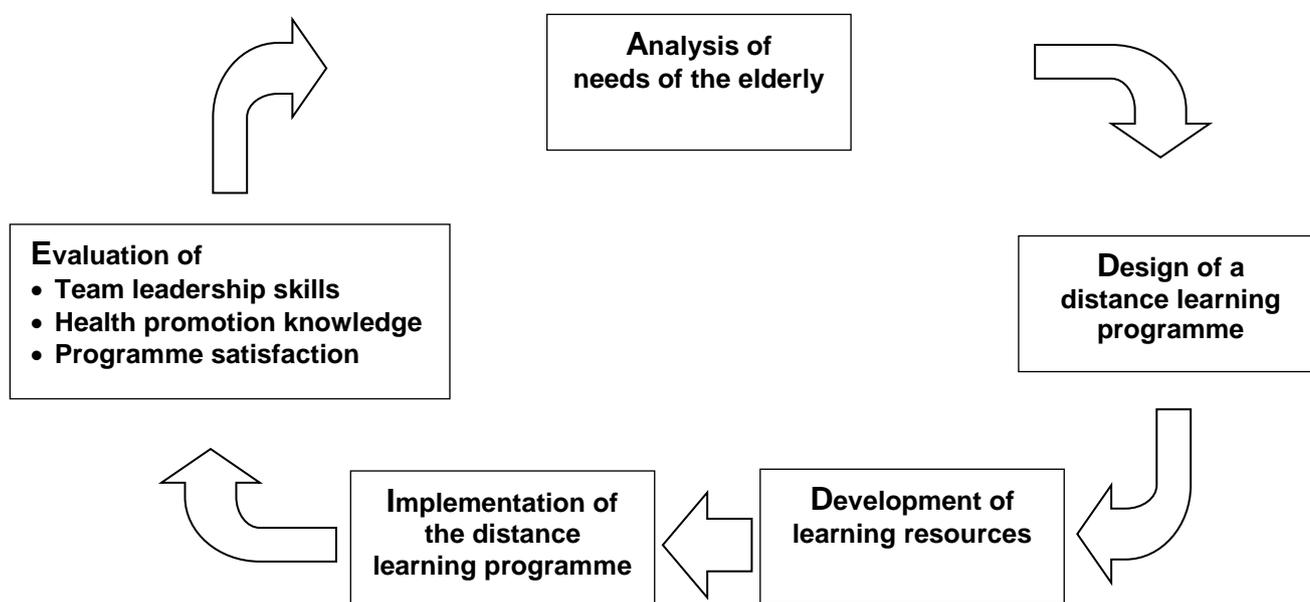


Figure 1: Theoretical Framework of the Study based on ADDIE Model

RESEARCH METHOD

Research design

The research and development design was used in this study to develop a distance learning programme for the elderly with a qualitative approach and to evaluate the developed programme with a quantitative approach on their health-promotion knowledge, team leadership skills, and programme satisfaction.

Sample

Samples composed of two groups: (1) a purposive sample of five leaders of elderly groups and two academic scholars participating in a focus group to design the distance learning programme, and (2) a total of 74 voluntary members of elderly groups in Bangkok, Nonthaburi province, and Pathum Thani province who participated in the programme evaluation. All focus group participants were selected based on these inclusion criteria:

- (1) They were educators and researchers in the field of gerontological nursing or leaders of elderly groups who managed health promotion activities for the elderly;
- (2) They were able to participate in a focus group at Sukhothai Thammathirat Open University, two face-to-face workshops, each lasting two days, with a one month interval in between where games and simulations were applied; and
- (3) They were in Bangkok, Nonthaburi, or Pathum Thani.

Invitation letters were sent randomly to 10 elderly groups or healthcare settings in Bangkok, Nonthaburi province, and Pathum Thani province. The inclusion criteria for volunteer participants were:

- (1) They were at least 20 years old at the time of enrolment;
- (2) They were a leader or a member of an elderly group or a health care provider responsible for providing health promotion activities in their community;
- (3) They were able to participate throughout the distance learning programme;
- (4) They were able to listen to, read and write in Thai well; and
- (5) They were situated in Bangkok, Nonthaburi or Pathum Thani.

Out of the 74 volunteer members of elderly groups who were qualified and invited to participate in the distance learning programme, 30 were invited to study in the pilot distance learning programme and 44 were invited to study in the actual distance learning programme.

Research Instruments

The pilot and final distance learning programme were developed and used as experiment instruments for this study. The research instrument for the programme evaluation comprised three parts to examine health promotion knowledge, team leadership skills, and programme satisfaction. These parts were:

- (1) Achievement test – Comprised 50 true or false questions to measure content knowledge and understanding of health promotion activities and self-care practices contained in a printed textbook for self-learning;
- (2) Team leadership skills inventory – Adapted from Team Leadership Skills Inventory (Nahavandi, 2000); and
- (3) Satisfaction survey – Assessed learner perception with regard to quality of course structure and content, teachers, course delivery and face-to-face workshops. It employed a five-point rating scale and open-ended questions.

All the research tools were verified for content validity by three experts. The Kuder-Richardson 20 (KR-20) of the achievement test of the distance learning programme was 0.93, while the Cronbach's alphas of the team leadership skills inventory and the distance learning programme satisfaction survey were 0.89 and 0.90 respectively, which presented a high coefficient alpha (Murphy & Davidshofer, 1988).

Research Procedures

The research procedures were categorised into five phases:

First phase: Analysis of elderly needs: Researchers conducted a literature review on the problems and limitations of senior citizen clubs in Bangkok and its vicinity and the needs of the elderly. A focus group discussion involving seven outside experts was conducted at Sukhothai Thammathirat Open University to explore elderly needs.

Second phase: Design of a distance learning programme: Researchers and focus group participants identify learning outcomes, objectives, content, sequencing topics, activities, and delivery mode of the distance learning programme. Games and simulations during face-to-face training workshops was designed for participants to practice team leadership skills and increase essential knowledge for promoting health promotion and self-care capability.

Third phase: Development of learning resources. The development phase emphasizes three areas: drafting, production, and evaluation (Seels & Glasgow, 1998 as cited in Peterson, 2003). Researchers used the information obtained from the focus group and literature review and produced a pilot distance learning programme which includes both theoretical and practical parts. The theoretical part is composed of 7 modules of health promotion, such as physical health, mental health, nutrition, exercises, medication, safety environment, and alternative health. There other modules were on leadership skills, effective team work, and conflict management skills. The practical part was integrated with games, simulations and practice in personality development, physical activities, project proposal preparation, teamwork skills, decision making skills, and conflict solution. The programme media which includes a printed textbook for self-learning and a manual for face-to face training workshops were examined by 3 experts. The distance learning media from the pilot study was improved based on the suggestions of all experts before the actual implementation. Formative evaluations were conducted by using thirty participants who had enrolled in the pilot study.

Fourth phase: Implementation of the distance learning programme. A number of modifications were made to the final program based on pilot study data and feedback from participants and research team members before the actual implementation. Modifications consisted of refinement of learning resources, workshop schedule together with adaptations to facilitators within the workshop.

Fifth phase: Evaluation of the distance learning programme. The final program was implemented and summative evaluations were carried out. A sample of 44 eligible participants enrolled and attended through the final distance learning programme. All of them received program orientation and a distance learning package during the first two-day intensive training workshop at Sukhothai Thammathirat Open University. They returned to participate in the two-day intensive training workshop in the following month. Data was collected at each workshop in order to evaluate the programme.

Data analysis

Data was analysed by using descriptive statistics and two dependent samples t-test. Descriptive statistics was used to describe the characteristics of the sample and the study variables. Two dependent samples t-test was used to compare health promotion knowledge and team leadership skills before and after the distance learning programme. The two dependent samples t-test is often used for comparing means of before and after experiments (Argyrous, 2011). Preliminary analyses were conducted to examine the underlying assumptions of the two dependent samples t-test. Those assumptions are that data are randomly sampled from two related populations, and that the differences between the paired

observations are approximately normally distributed (Zimmerman, 1997; Derrick, Toher, & White, 2017).

Ethical considerations

This study was approved by the human research ethics committee of the School of Nursing, Sukhothai Thammathirat Open University, in Thailand. The research leader informed the participants about the purposes and procedures of the study and then obtained their informed consent. The participants were informed that they were research subjects and that they had the right to withdraw from the study any time.

FINDINGS AND DISCUSSION

Characteristics of sample

The total of 44 participants enrolled in and participated throughout the final distance learning programme. Most of them lived in Pathum Thani province ($n= 19, 43.20\%$) and Nonthaburi province ($n= 17, 38.60\%$), while the rest came from Bangkok ($n=8, 18.20\%$). The youngest attendant was 30 years old. The participants were mostly female ($n= 32, 72.70\%$), married ($n=34, 77.30\%$) and had education under a bachelor's degree ($n=30, 68.20\%$) as illustrated in Table 1. Their average age was 65.66 years (S.D. =7.57). Two of them were 80 years old.

Table 1: Frequency and percentage of sample participating throughout the final distance learning programme ($n=44$)

Demographics	Frequency	Percentage
Habitat:		
Pathum Thani	19	43.20
Nonthaburi	17	38.60
Bangkok	8	18.20
Gender:		
Female	32	72.70
Male	12	27.30
Marital Status:		
Married	34	77.30
Single	6	13.60
Divorce/separation	4	9.10
Education		
Lower than Bachelor's degree	30	68.20
Bachelor's degree or equivalent	11	25.00
Higher than Bachelor's degree	3	6.80

Research Results

The findings indicated that the participants rated their health promotion knowledge and team leadership skills after completing the distance learning programme statistically higher than before the use of the distance programme at .001 and .05 level of significance respectively (see Tables 1 and 2). They also rated their satisfaction with the distance learning programme at a high level ($M = 4.5, S.D.= 6.3$).

Table 2: Mean and standard deviation of health promotion knowledge between before and after the use of the distance learning programme. (*n=44*)

Health promotion knowledge	Mean	Standard Deviation	t	df	Sig
Before	31.73	4.62	5.40	43	.000
After	35.64	5.15			

Table 3: Mean and standard deviation of team leadership skills between before and after the use of the distance learning programme. (*n=44*)

Team leadership skills	Mean	Standard Deviation	t	df	Sig
Before	45.32	4.62	2.03	3	.048
After	47.23	7.90			

Findings demonstrated that the participants rated their health promotion knowledge and team leadership skills after completing the distance learning programme statistically higher than before the use of the distance programme. This might be due to the fact that the distance learning system was useful in improving their knowledge related to health promotion activities and self-care practices. The distance learning programme comprised printed materials for autonomous study and two face-to-face workshops with one month interval. The printed materials – a textbook, a workbook and a leadership training manual – were designed to be simple and easy to use for the elderly. The contents were evaluated and improved several times by an expert group during the programme development phase and by older participants who attended and evaluated the pilot programme in order to engage learners’ needs and expected learning outcomes. According to the responses of the achievement test of the distance learning programme, participants in the final distance learning programme reported that a part of the textbook provided updated and beneficial self-care information for them. Another reason might be due to that all the participants desired to enrol in this distance learning programme reflected that they were active learners who were suitable for self-directed learning. Some older participants recognised that reading books regularly would help their cognitive function as well. Therefore, the participants gained health promotion knowledge from the provided textbook and their own experiences and wanted to disseminate what they learned and their experiences to others at the end of the distance learning programme.

Based on responses to the Team Leadership Skills Inventory, the participants reported that they were able to improve their team leadership skills after attending the face-to-face workshops. One of possible reason might be that they experienced self-care practice and social interaction through games, role play, simulations, and group discussion during the workshops. The face-to-face workshops complemented the distance learning materials and motivated learners to attain learning achievement (Wonacott, 2002). The face-to-face contact provided immediate interaction between teachers and learners as well as among the learners themselves. The workshops with games and simulations interested learners to practise leadership skills such as building teamwork, developing self-awareness, improving personality, managing conflicts, promoting creativity, writing a grant proposal, and expanding social connection.

Participants also rated their satisfaction with the distance learning programme at a high level. It is possible that they enjoyed the activities and received new ideas through games, simulations, and other activities in the workshops. The learners could increase social relationships and networks to support each other later on.

The importance of health promotion and prevention should be promoted to the older population. Ageing could lead to reduced functional performance and social involvement, especially for females (Pinto & Neri, 2013). Previous studies showed that the prevalence of chronic conditions was associated with poor education, malnutrition, obesity, less exercise and inappropriate self-care behaviours. Most chronic diseases are often preventable by eliminating risk factors and maintaining good health, routine healthy behaviour performance such as regular exercise, healthy diet, stress reduction and relaxation. Therefore, healthy ageing, and specifically the active promotion of health, among an older population is becoming increasingly important.

The integration of distance learning and face-to-face workshops would benefit older people to engage in healthy ageing. In developing countries, printed educational materials widely served as the primary source of instruction and information in the distance learning system. The printed materials of the distance learning package contained useful information for the older adults to apply in their self-care and daily life activities. Its pattern was made easy for their self-study anywhere and anytime. The face-to-face workshops in this study provided benefit for older learners as well as a traditional classroom. Participants were encouraged to recognise the importance of leadership skills as well as health promotion in order to engage in healthy ageing or quality ageing. Healthy ageing is recognised as a golden goal of health care policy. A previous study reported that older Thai adults who have some disabilities or multiple chronic illnesses usually perceived their health at a good level and enjoyed participating in social activities because social participation increased their self-esteem (Rattanapan, Fongkeaw, Chontawan, Panuthai, & Wesumperuma, 2009). It is necessary to encourage older adults to initiate and administer health promotion activities, practise self-care regularly and have social activities in their own community in order to optimise their personal health and social well-being (Kumsuchat, 2003). However, the development of some leadership skills and strong social relationships would require more time for training.

Health and promoting leadership skills among an older population were beneficial in improving personal and social well-being. Older adults should be encouraged to have good relationships with others by participating in social activities that would help their mental health as well. Strengths of the programme were the ubiquitous learning and enjoyable games/simulations. Trainees were able to learn anytime from anywhere. The contents of learning were up to date and could be applied in real situations. The weakness of the programme was the limitation of study time.

The ADDIE model provided suitable guidelines for the development of the distance learning programme in this study. One reason was that it provided systematic and flexible processes, which are Analysis, Design, Development, Implementation, and Evaluation. Each phase in the ADDIE model was related to and interacts with the other (Aldoobie, 2015). Another reason was that the ADDIE processes were congruent with the research and development study purposes in order to create innovation and knowledge development. Moreover, the ADDIE model promoted quality management and continuous development. The designs could be improved to address the demands of learners, expected learning outcomes, and an unstable learning environment (Thomas, Mitchell, & Joseph, 2002). Lastly, the model can be applied not only for traditional courses and online courses, but also special training programmes (Durak & Ataizi, 2016). The disadvantage of the ADDIE model was that each phase was time-consuming. It was difficult to end the ADDIE cycle with the best practice due to limited time.

CONCLUSION

Thailand is rapidly becoming an ageing society with limited resources for long-term care. Although advanced medical knowledge and technology help people live longer, most elderly people tend to experience physical deterioration, psychological morbidity, and social isolation. Improving personal and social health among older adults is especially important to those who are facing physical challenges. The distance learning system is an alternative to support lifelong learning. The ADDIE model is useful in guiding the development and evaluation of a distance learning programme for the elderly. The findings of this study demonstrated the effects of the distance learning programme developed for Thai elderly to enhance their health promotion knowledge and team leadership skills. The programme was a successful method for enhancing elderly participants' health promotion capacity and lifelong learning. Moreover, the distance learning programme with face-to-face activities can be used as a tool to increase personal knowledge and social engagement. The games and simulations applied through this distance learning programme empowered the older adults to build up effective teamwork in order to encourage both younger and older people in their family and community to practise healthy behaviours. The online/mobile learning programme with the use of games and simulations for older people is suggested for the future. Healthy ageing would become a reality rather than just a health policy.

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REFERENCES

- Aldoobie, N. (2015). ADDIE model. *American International Journal of Contemporary Research*, 5(6), 68-72.
- Argyrous, G. (2011). *Statistics for research: With a guide to SPSS* (3rd ed.) London: SAGE publications.
- Chappell, N.L. & Cooke, H.A. (2010). Age related disabilities - Ageing and quality of life [Download the archived CIRRIE encyclopedia pdf files]. *International Encyclopedia of Rehabilitation*. Retrieved from <http://cirrie.buffalo.edu/encyclopedia/en/article/189/>
- Derrick, B., Toher, D., & White, P. (2017). How to compare the means of two samples that include paired observations and in two-dependent-samples t-test observations. *The Quantitative Methods in Psychology*, 13(2), 120-126.
- Durak, G., & Ataizi, M. (2016). The ABC's of online course design according to ADDIE model. *Universal Journal of Educational Research*, 4(9), 2084-2091.
- Knodel, J., Teerawichitchainan, B., Prachuabmoh, V., & Pothisiri, W. (2015). *The situation of Thailand's older population an update based on the 2014 survey of older persons in Thailand* (Research Report 15-847). Retrieved from Population Studies Center, University of Michigan, Institute for Social Research website <http://www.psc.isr.umich.edu/pubs/pdf/rr15-847.pdf>
- Kumsuchat, S. (2003). *The Development of Alliances for Health Promotion Among*

- the Older Persons in an Urban Community in Bangkok.* (Unpublished doctoral dissertation in Public Health Nursing). Mahidol University, Thailand.
- Lertputtipongporn, L. (2010). *The development of health promotion for the elderly in Amphur Bangsrimueng, Nonthaburi province, Thailand.* (Unpublished master in two-dependent-samples t-test study in public Health Administration). Khon Kaen University, Thailand.
- Murphy, K.R., & Davidshofer, C.O. (1988). *Psychological Testing: Principles and Applications.* Englewood Cliffs, NJ: Prentice-Hall.
- Nahavandi, A. (2000). *The art and science of leadership* (2nd ed.) Upper Saddle River, NJ: Prentice-Hall.
- Nosrida, K. (2010). The development of health promotion for the elderly in Amphur Nampong Community, Khon Kaen province, Thailand. (Unpublished master in two-dependent-samples t-test study in community health nursing). Khon Kaen University, Thailand.
- Peterson, C. (2003). Bringing ADDIE to Life: Instructional Design at Its Best. *Journal of Educational Multimedia & Hypermedia*, 12(3), 227-241.
- Pinto, J.M. & Neri, A.L. (2013). Factors associated with low life satisfaction in community-dwelling elderly: FIBRA Study. *Cad Saude Publica*, 29(12)
- Rattanapan, S., Fongkeaw, W., Chontawan, R., Panuthai, S. and Wesumperuma, D. (2009). Characteristics healthy ageing among the elderly in Southern Thailand. *Chiang Mai University Journal of Natural Sciences*, 8(2), 143-160.
- Teerawichitchainan, B., Knodel, J., & Pothisiri, W. (2015). What does living alone really mean for older persons? A comparative study of Myanmar, Thailand, and Vietnam. *Demographic Research*, 32(48), 1329-1360.
- Thomas, M., Mitchell, M. & Joseph, R. (2002). The third dimension of ADDIE: A cultural embrace. *TechTrends*, 46(2), 40-45. Retrieved from <https://pdfs.semanticscholar.org/54a4/6b4080ddde7db719c1331020508e24a71064.pdf>
- United Nations. (2002). *World population aging: 1950-2050.* New York: Population Division, Department of Economic and Social Affairs, United Nations.
- United Nations Economic and Social Commission for Asia and the Pacific. (2017). *Aging in Asia and the Pacific overview.* Bangkok: Social Development Division.
- Vithayachockitikhun, N. (2006). Family caregiving of persons living with HIV/AIDS in Thailand: Caregiver burden, and outcome measure. *International journal of Nursing Practice*, 12, 123-128.
- Wonacott, M.E. (2002). *Blending face-to-face and distance learning methods in adult and career-technical education (ERIC Practice Application Brief No. 23).* Retrieved from <http://www.ericacve.org/pubs.asp>.
- World Health Organization. (2007). *Office Older Population and Health System: A profile of Thailand.* Retrieved from www.who.int/ageing/projects/intra/phase.../alc_intra1_cp_thailand.pdf
- Zimmerman, D. (1997). A note on the interpretation of the paired samples t-test. *Journal of educational and behavioral statistics*, 22(3), 349-360. doi:10.3102/10769986022003349.