The Evaluation of Distance Learning Model through Group Process on Food Safety and Organic Agriculture for the Well-Being of the Elderly in Nonthaburi and Chonburi Provinces, Thailand

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Abstract

The objectives of this research were 1) to experiment with distance learning management through group processes on food safety and organic agriculture towards the well-being of the elderly. 2) to assess the distance learning model. The populations were (1) the elderly people participated in the program from Nonthaburi and Chonburi provinces consisted of six groups of 20 persons per group, totaling 120 people. Quantitative data were collected from the entire population by using an interview form. Data were analyzed using descriptive statistics and t-tests. (2) Representative of the elderly and experts in geriatrics, distance education and food safety, and organic agriculture consisted of 21 persons. The purposive sampling was used. Qualitative data was collected using focus group and analyzed by content analysis. The results showed that 1) The experimental management of learning consisted of Phase 1 – Comprehension, and Phase 2 - Access and Development. 2) The assessment of distance learning model found that (1) the appropriate of distance and group process learning model was a model with flexibility, blended informal learning, learners-centered learning, spatial suitability, and linking farming to the health care of the elderly. The elements of learning management model were considered to be appropriate at the highest level in three areas: curriculum standards, objectives, and learning media, and there was a high level of appropriateness in two areas: the course content, and the course's learning management process. (2) Appropriate learning methods and learning media were experimental and hands-on focus, field trips as early activities, supportive learning managers, voluntary participation of learners, and the appropriateness and accessibility of media to the elderly. (3) There was the highest level of change from learning at individual, group, community, and agency level. (4) There was a significant difference at the 0.05 level between mean pre- and post-test knowledge scores of elderly.

Keywords: evaluation of distance learning; learning model assessment; group process learning; elderly health; food safety and organic agriculture

I. INTRODUCTION

Thailand is rapidly entering an aging society, thus inevitably affecting the overall economic and social development of the country. The proportion of people of working age has decreased, resulting in a decrease in overall productivity. The problem of welfare for the elderly requires an increased budget, including problems with the quality of life of the elderly. Importantly, the most challenging problem in the aging society is how to improve the quality of life for the elderly as in [1]. Therefore, the preparation for entering an aging society should be coordinated by both the public and private sectors at the individual, community and national levels. In particular, it should encourage awareness of the importance of stepping into a strong aging society. According to the World Health Organization [2], several studies have confirmed that the solution to alleviating this problem is to promote healthy ageing. An approach to increasing the likelihood of promoting a healthy elderly person is self-development or self-education. The concept of lifelong learning is one of the most popular concepts for describing the learning process of older people. Several studies support that lifelong learning contributes to the health and well-being of elderly as in [3].

At present, various organizations have organized various activities to promote the potential of the elderly such as school activities for the elderly, and activities of the Elderly Club for career promotion and wisdom transfer of the elderly in the community. There are three dimensions of empowerment for the elderly according to the World Health Organization concept, namely health, participation, and security or life insurance (World Health Organization, 2002). According to Knowles (1980), father of adult education, the science and art of learning management for adults consists of 1) Self-concept, 2) Experience, 3) Readiness to learn, and 4) Orientation to Learning. The promotion of adult learning should take into account the concept of learners, learning atmosphere, requirement

analysis, joint planning, applying experience to learning, and evaluation [4].

Sukhothai Thammathirat Open University is an open university with a commitment of "lifelong education, focusing on improving the quality of the people, and expanding educational opportunities for all" to meet the needs of individuals and society through the provision of a distance learning system since the university's establishment in 1978 [5]. Distance education is another form of learning that is consistent with learning management in the 21st century, focusing on self-learning through various media. Sukhothai Thammathirat Open University encourages faculty members to implement a project to develop a distance learning model through group processes on food safety and organic agriculture for the well-being of the elderly in Nonthaburi and Chonburi provinces. In this regard, there were elderly groups from urban and rural communities, which were in line with the lifestyles of the elderly in Thailand. This research was conducted on a range of subjects including the study of basic conditions, consumption, health, and learning among the elderly. A focus group approach was also used with senior representatives and experts to bring information and ideas to develop a distance learning model through group processes for food research and organic agriculture towards the elderly. This included the development of learning materials, learning models, and learning management processes that were appropriate and suitable for the needs of the elderly. Later, it was developed into a lesson and a model in the management of distance learning on food safety and organic agriculture for the health of the elderly, including as a guideline to promote and develop the elderly to be able to be self-reliant. The learning manager acted as a facilitator for learning for the elderly. Learning management was divided into two phases: Phase 1 - Comprehension - The phase focused on content-based learning, concepts, principles and knowledge that the elderly could apply in their daily lives. It took at least 4 weeks (1 month). Phase 2 - Access and development - The phase focused on learning from practice for the transition towards safer farming, organic farming and health care for the elderly. It took about 12 weeks (3 months). The development of learning materials consisted of 1) The print media consisted of 3 documents, namely, handbook for learning managers, courses and list of video materials, and learning approach. 2) Electronic media consisted of 4 categories of video media. In this regard, video materials are delivered to the elderly in all channels so that they can access them at their convenience, including: USB flash drive, LINE, Facebook, and YouTube. Course descriptions and learning materials in each category were divided into 4 subjects: paradigm and way of organic agriculture, safe and organic food production and marketing, health care of the elderly, and infotainment. In this way, the elderly could choose to learn video materials according to their interests, and could choose the time to learn, and to prioritize learning content according to their own potential, interests, and aptitudes.

In this situation, it was imperative to evaluate the distance learning model through group processes on food safety and organic agriculture for the well-being of the elderly in Nonthaburi and Chonburi provinces. This research had to try to manage learning according to the given model.

Subsequently, the distance learning model was assessed through group processes on food safety and organic agriculture towards the well-being of the elderly using a research and development model to understand the opinions of the elderly on various aspects of the learning management model, conceptual changes, and problems and suggestions in learning management. In the end, the distance learning management model was synthesized through a group process on food and organic agriculture suitable for the elderly.

II. RESEARCH OBJECTIVES

The objectives of this research article were 1) to experiment with distance learning management through group processes on food safety and organic agriculture towards the well-being of the elderly according to the specified model. 2) to assess the distance learning model through group processes on food safety and organic agriculture towards the well-being of the elderly.

III. RESEARCH METHODS

A. Conceptual framework

This research used research and development models. The researcher formulated a research conceptual framework related to the development of a distance learning model through group processes on food safety and organic agriculture towards the well-being of the elderly, such as distance education concepts, adult learning models and methods, and food safe and organic agriculture for the elderly. The details were as follows.
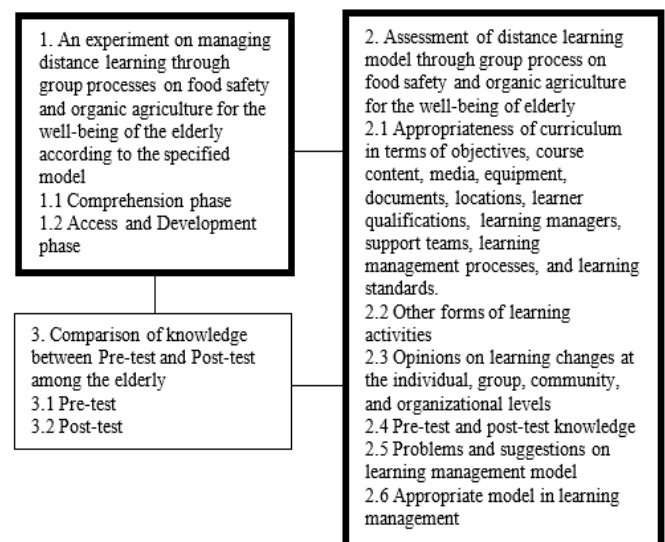

Fig 1. Conceptual framework

B. Research Process

This research used research and development models. The research area was Nonthaburi and Chonburi provinces. The research team classified the study into 2 phases as follows:

1. Phase 1- Distance learning management experiment through group process on food safety and organic agriculture towards the well-being of the elderly according to the specified model.

All 6 groups of elderly people were encouraged to manage their learning according to the specified model.

Both quantitative and qualitative data were collected from a population of 120 enrolled elderly people using 1) pre-test, and 2) learning record form in the community area and via Line. The experimental management of learning 2 phases consisted of 1) Phase 1 – Comprehension, and 2) Phase 2 - Access and Development. In this regard, the experimental model "One Group Pretest Posttest Design" was used, emphasizing the experiment with a single group through observation of participants both pre- and post-test (O_1 and O_2). After that, the results obtained from the measurements or observations were compared to test whether they were different [6], as shown in Figure 2.

Experimental method: E O_1 X O_2

Fig 2. One Group Pretest Posttest Design experimental model

2. Phase 2 - Assessment of the distance learning model through group process on food safety and organic agriculture towards the well-being of the elderly.

Both quantitative and qualitative data were collected. Quantitative data were collected from all 120 elderly people as follows: (1) eight-part interview form for asking the opinions of the elderly about the appropriateness of the curriculum in various fields, and (2) post-test. Qualitative data were then collected from 21 samples, namely: 1) Purposive sampling method for selecting representatives of the elderly - The representatives were divided into 6 groups of 2 each, consisting of a group leader and a total of 12 representatives. 2) Representatives of senior citizens, distance education, and food safety and organic agriculture - The representative was a population of unknown numbers. The purposive sampling was used in the selection of representatives divided into 3 people on each side, totaling 9 people. The focus group were held to allow senior representatives and experts to express their opinions and exchange opinions. The focus group approach resulted in more complete research [7]. The research tool was 1) Focus Group 1: The first part contained questions about appropriateness, usefulness and satisfaction, problems, obstacles and solutions, and guidelines for the development of distance learning management through group processes on food safety and organic agriculture towards the well-being of the elderly 2) Focus Group 2: The second session consisted of brainstorming, discussion, exchange of ideas, and the synthesis of a distance learning model through a group process on food and organic agriculture for the well-being of the elderly. This research was conducted during November 2019-March 2020. The quantitative data was analyzed with descriptive statistics. The t-test was used in qualitative data for content analysis.

IV. RESULTS

Objective 1 - The experimental management of distance learning through group processes on food and organic agriculture towards the well-being of the elderly according to the specified model, the researchers found that the duration of the experiment in terms of content and operation was approximately 16 weeks or 4 months. The learning system could be divided into two phases: Phase 1 –

comprehension, and Phase 2 - Access and Development. However, the impact of the COVID-19 epidemic affected the learning management of the elderly as the government had strictly prevented the spread of COVID-19 such as social distancing, orders for civil servants and employees to work from home, postponement of training seminars, prohibition of meetings or gatherings, and strictness in traveling across provinces or areas. Such measures resulted in the elderly group unable to manage their learning as scheduled, therefore, the duration of this learning management trial had to be extended from 4 months to 9 months. The elderly agreed that if there is no COVID-19 epidemic situation, the learning period should be used as originally scheduled because it was considered an appropriate period. The learning management experiment was divided into 2 phases in 11 steps as follows:

1. Phase 1: Comprehension: It took 12 weeks (3 months) to allow the elderly group to schedule learning sessions for all 4 subjects at a convenient time with sharing and summarizing lessons together. The operations were as follows: 1) Public relations for learner recruitment - This was done by coordinating with the 6 elderly groups to find 20 members who voluntarily participate in each group. 2) Seminar on learning managers as representatives of the elderly group - In this regard, a course was taken to attend a course orientation and to clarify the implementation of learning management. 3) Planning - Subjects/media/time were assigned with learners by learning managers who planed learning together with older people who participated in learning as convenient for each group. 4) Documents and learning materials were received from the project for use in learning. 5) Management of the learning process in Phase 1 (comprehension) - The learning manager created a class schedule with members for mutual learning. The primary medium for learning was the course video material, in which the senior group could choose to study according to the needs or interests of the group members. More importantly, the group members should do the pre-test. In each learning session, the learning manager should ask the members questions to assess the group members' learning on how they understand and apply the knowledge gained to them. 6) Extension of life plan/group plan - After learning the contents of the subjects of the comprehension phase, the learning managers should invite members to create individual, and group life plans in terms of how they could apply the knowledge gained on food safety, organic farming, and aging care. The research project supported part of the budget for learning through group processes and activities so that members and groups could purchase materials and equipment for individual and group life plans.

2. Phase 2: Access and Development: The practical learning phase took approximately 24 weeks (6 months). The operations were as follows: 1) Management of learning process - In Phase 2, Access and Development was a hands-on learning approach based on individual and group plans. In this regard, it was to change to a safer way of agriculture, organic agriculture towards the well-being of the elderly. Each elderly person in each group undertook various activities according to their interests. The activities of the 6 seniors included vegetable gardening for household consumption, vegetable gardening within the group, cultivating vegetable saplings for consumption,

self-composting, and bio-fermentation. It also included senior care such as detoxification, massage, Gua Sha, exercise for the elderly, and healthy cooking and beverages. In this regard, there was learning from various media such as learned man, folk philosopher, study visit, and learning through various channels such as YouTube, Facebook, radio, and television. Moreover, experiences were exchanged from activities such as vegetable care techniques, and cooking techniques, as well as the exchange of information and knowledge about agriculture and health care. In addition, there was mutual encouragement among older members, such as in the case of unsuccessful planting of vegetables or being informed about their fellow members' illnesses. Member interactions consisted of face-to-face meetings on appointment dates, phone calls, and online via private, small-group and large-group LINE applications. 2) Follow-up and visit to encourage learners - The researcher visited and encouraged the elderly both in the community area and through Group LINE. 3) Curriculum evaluation and learning management - This was done using an interview form and focus group. Group members were self-assessed after the second part of the learning process had been completed. 3) Report on learning outcomes and results - There was a seminar forum and presentation of learning management results to representatives of the elderly group and experts to give their opinions on learning management according to the specified model. 4) Coordination to drive further learning - In this regard, representatives of the elderly group had the opportunity to meet with experts and other groups of elderly people to exchange learning and joint activities in the future.

Objective 2: Assessment of a distance learning model through group processes on food safety and organic agriculture towards the well-being of the elderly– The opinion assessment of the elderly regarding the appropriateness of the curriculum learning model in seven aspects, it was found that,

1. Appropriateness of the curriculum learning management model in different areas as shown in Table 1.

Table 1 Appropriateness of the curriculum learning management model in various fields

Appropriateness	Level of Appropriateness $\overline{X}$ (S.D.)	Level	Ranking
1. Course objectives	**4.28 (0.061)**	highest	**2**
2. Course content	**4.13 (0.064)**	high	**4**
2.1 Paradigm and organic farming method (code 01)	4.14 (0.060)	high	*(2)*
2.2 Safe and organic food production and marketing (Code 02)	4.09 (0.069)	high	*(3)*
2.3 Health care for the elderly (Code 03)	4.30 (0.528)	highest	*(1)*
2.4 Infotainment (Code 04)	3.97 (0.704)	high	*(4)*
3. Media, equipment, documents, and locations, qualifications of learners, learning managers, and support teams.	**4.21 (0.742)**	highest	**3**
3.1 Video media for learning	4.00 (0.840)	high	*(6)*
3.2 Learning devices such as computers, video projectors, and television sets, etc.	3.87 (0.952)	high	*(7)*
3.3 Documents such as course guidebooks, process design	4.06 (0.810)	high	*(5)*

notes, and learning process results records, etc.

3.4 Group learning place	4.17 (0.774)	high	*(4)*
3.5 Qualifications of learners	4.29 (0.692)	highest	*(2)*
3.6 Qualifications of Local Learning Managers	4.24 (0.755)	highest	*(3)*
3.7 Qualifications of project support team	4.36 (0.645)	highest	*(1)*
4. Curriculum management process	**4.09 (0.751)**	high	**5**
5. Curriculum learning standards	**4.38 (0.715)**	highest	**1**

Three highest-level appropriate aspects were curriculum learning standards (mean = 4.38), course objectives (mean = 4.28), and media, equipment, documents, and locations, learner qualifications, learning manager, and support team (mean = 4.21). Two high-level appropriate aspects were curriculum content (mean = 4.13), and the curriculum learning management process (mean = 4.09). When considering the appropriateness of the course content in various subjects, it was found that the most appropriate subject was health care of elderly (code 03) (mean = 4.30). Three high-level appropriate subjects were paradigms and organic farming methods (code 01) (mean = 4.14), safe and organic food production and marketing (code 02) (mean = 4.09), and infotainment (code 04) (mean = 3.97).

2. Other forms of learning activities, it was found that there were discussions and knowledge exchange with group members (96.7%), followed by group meetings (95.8%), inviting knowledgeable people to lecture in groups (95.0%), and training of various agencies (94.2%).

3. Changes in learning at the individual level, group level, community level, and related department level, it was found that the overall change was at the highest level (mean = 4.21). There were two highest levels of learning change at the individual level (mean = 4.36), and at the group level (mean = 4.29). There were two high levels of learning change at the relevant departments (mean = 4.13), and at the community level (mean = 4.09), respectively.

4. Assessment of pre-test and post-test on distance learning through group process on food safety and organic agriculture for the well-being of the elderly, it was found that the elderly had a high level of pre-learning knowledge (mean = 8.81), and a high level of post-learning knowledge (mean = 12.06). The t-test found that the pre- and post-participation average knowledge scores were significantly different at the .05 level (participation in this course had resulted in the elderly being more knowledgeable on food safety and organic agriculture for the health of the elderly.)

Table 2 shows the mean, standard deviation, and statistical values in the hypothesis test for comparing the differences between pre- and post-curricular knowledge.

Comparison	Pre-Test		Post-Test		t	p-value
	$\overline{X}$	S.D.	$\overline{X}$	S.D.		
Pre-test — Post-test	8.81	1.563	12.06	1.386	-15.25	0.00

5. Problems and recommendations on the model of management of distance learning through group processes on food safety and organic agriculture for the well-being of the elderly, it was found that the elderly saw that the problems of

learning management consisted of the personal problems of the elderly due to their tasks and lack of access to media, information technology and other problems such as the COVID-19 epidemic. Therefore, there were content recommendations on the distance learning management model through group processes on food safety and organic agriculture for the well-being of the elderly such as adding content about farming. In addition, media should be created according to trends or idols of the elderly, and the learning content in each subject should not be too long. Importantly, the design of activities should focus on participatory learning and support for continuous learning.

6. Appropriate model of distance learning management through group processes on food safety and organic agriculture for the well-being of the elderly, it was found that:

1) In terms of the distance learning management model through group processes on food safety and organic agriculture for the well-being of the elderly, the sample group viewed that the appropriate learning model should have the following characteristics: flexible learning model, blended self-learning model, learner-centered learning model, appropriate learning models in each area, connected learning model between farming and health care of the elderly.

2) In terms of learning methods and distance learning materials through group processes on food safety and organic agriculture for the well-being of the elderly, the sample group viewed that the appropriate learning model should have the following characteristics: hands-on learning of the target audience, study tour as early activity, learning manager support, voluntary participation of learners, and appropriateness and accessibility of the media.

V. DISCUSSIONS

Objective outcomes 1: The experimental management of distance learning through group processes on food safety and organic agriculture towards the well-being of the elderly according to the specified model could discuss the following issues:

1. In this research, the learning process was designed into 2 phases: Phase 1 – Comprehension - It was a content-based learning from course videos and other materials, emphasizing learning through a group process with an exchange of knowledge at the end of each learning session. Phase 2 - Access and Development - The phase focused on learning from hands-on practice. This was consistent with learning management in the 21st century in the sense that there was an emphasis on students to practice thinking, analysis and creativity, including independent presentation and hands-on learning. Importantly, it is also consistent with the concept of a learning process of constructionism with the main goal of promoting thinking, analytics and creativity through hands-on activities in an environment conducive to learning. In this regard, students were encouraged to learn through working together on projects. In designing the curriculum-based learning model, seniors were required to create life plans and group plans after learning in Phase I (Comprehension) to define activities for Phase 2 (Access and Development). The design enables elderly to learn what interests them through hands-on instruction in a

"project-based learning" model as in [8]. Learning was only effective when there were hands-on activities [9].

2. This research designed a learning model for the elderly to be able to apply them in practice and in accordance with the needs of the elderly group, that is, learning through group processes. In this sense, it was an approach where learning was exchanged from real experiences and could be applied in daily life by means of learning management through the group learning process. In the research, subjects were grouped that the elderly could use in their daily lives and had a wide range of learning such as learning from successful cases through video media, social media, study tours, hands-on practice, including learning from speakers, experts or local scholars. Knowles' adult learning principles, on the science and art of helping to manage adult learning, were introduced: 1) Self-concept 2) Experience 3) Readiness to Learn and 4) Orientation to Learning [10]. It encouraged the elderly to have lifelong learning and led to the development of a sustainable lifelong learning society. Consistent with Sirindhorn Sinchindawong, and Pussadee Klinkasorn (2020), who describe the application of adult learning management: 1) Self-concept - It created a learning atmosphere where the elderly could exchange ideas with each other after each learning session to make them feel accepted, respected and supported in their independent critical thinking. Actual implementation consisted of an analytical process of one's own needs, and a senior-centered planning process. The elderly would be involved in planning their own studies so that they felt a participatory commitment in planning and making decisions about learning. The learning experiences were organized in line with the idea that adults were self-control and self-directed. In addition, there was an evaluation of learning based on the principles of adult learning that emphasized that elderly were self-directed to measure and assess their progress through the facilitation of learning managers. 2) Experience - The old experiential learning was applied to new learning such as farming experience and health care, leading to practical application through case studies in the course video material. 3) Readiness to Learn - The curriculum-based learning model provided the elderly with the opportunity to self-select periods of learning in accordance with the mission, duties, and social roles of the individual. The elderly could choose course content from the course video material according to their individual interests. 4) Orientation to Learning - The learning content of the course focused on the use of "Problem-based Learning "because adults had the expectation of immediate adoption [11]. This section gave the elderly the opportunity to develop a life plan and a group plan to determine what activities to continue in Phase 2 (Access and Development).

Objective outcomes 2: The assessment of distance learning model through group process on food safety and organic agriculture towards the well-being of the elderly could discuss the following issues:

1. Learning model of the elderly - The learning model of the elderly was highly aligned with older needs, including flexible learning model, blended self-learning model, learner-centered learning model, appropriate learning models in each area, connected learning model between farming and health care of the elderly through appropriate

learning methods and media. The design of the learning model in the curriculum could be applied to the principles of self-directed and action-based adult learning in everyday life, study tour as the first activity to open learners' worldview, and learning motivation through learning materials and support from learning managers who are members of the group or familiar with the elderly group such as agricultural extension officers. The elderly attending should come voluntarily. This was consistent with the findings of Achanya Ratanaubon as in [12], who discovered four philosophies of lifelong education as a learning community: the belief in the potential of communities and individuals arose through self-guiding, at the heart of change was continuous learning, individuals and communities could learn if value and benefits were desired, and community learning took place through community-driven mechanisms to develop communities based on lifelong education principles.

2. Management of distance learning through a group process - Assessment of distance learning management through group processes on food safety and organic agriculture for the health of the elderly in 7 aspects, it was found that three aspects of appropriateness at the highest level were learning standards, objectives, and media, equipment, documents, and locations, learner qualifications, learning managers, and support teams. Two aspects of appropriateness at the high level were content and learning management processes. This was in line with the objectives and goals of the curriculum in which learners as elderly could build their own knowledge through learning from the main media i.e., course videos and other media such as local philosophers, and social media through the practical implementation of learning in Phase 2 according to life plans and group plans that the elderly have set after learning in Phase 1 (Comprehension). This learning management was based on the application of two concepts and theories of adult learning, namely, learning process of constructionism with the primary goal of thinking, analyzing, and creating through hands-on activities in a learning environment that encourages learning as in [8]. Self-directed learning emphasized personal independence and responsibility for one's own learning, which were essential adult learning pathways. The student-centered education management was carried out by teachers who supported and guided students to achieve continuous learning [13].

3. Learning materials - The results showed that the sample group suggested that the learning media should be suitable for the elderly and easily accessible. The main medium in this research was video media. The elderly could access this material in a variety of ways, both in the form of print media as a course material and electronic media, including E-book USB Group LINE Facebook and YouTube. Consistent with Suvit Maesincee (2020) pointed out that "From now on, learning can occur from anyone, anywhere, and at any time without the need to be attached to the classroom or education system anymore… Online education, artificial intelligence, and related technologies are playing a bigger role in the post-COVID world." [14] This was in line with the opinions of experts and senior representatives who suggested that learning media should be appropriate for the elderly, accessible, and easy to learn such as LINE. The media used should be diverse and in line with

the needs of each age group, for example, some groups of older people were more comfortable learning from electronic media while others were more convenient to learn from personal media. However, the experts and the elderly suggested that the media should be created according to the trend or idols of the elderly. The learning content in the 4 learning videos should not be too long and should use a blended informal learning style, that is, the use of core media and other media as needed. In addition, learning activities should be organized in accordance with the daily life of the elderly, whereby the elderly could choose to continue learning throughout their lives based on interests, and needs. It was also found that some of the elderly had problems with the lack of skills in using new media and lack of equipment to access information media. This is consistent with researchers as in [15] said that Thai elderly people preferred to receive information from mainstream media such as radio, and television. They tended to follow entertainment, news, and advertisements, and these media played a huge role in persuasion and influence on the livelihoods of the elderly. The elderly used Internet media as a medium to relieve loneliness, happiness, and interaction with friends and children. Elderly people tended to trust information shared by others online. This aspect reflected that the elderly still did not have access to a wide range of media, both in terms of media and information, it was imperative to promote media literacy competence in media access, analysis, critique and assessment of media, information, and digital technologies to reduce and prevent problems from media use.

4. Learning outcomes - The results showed that the participants in the program thought the course was appropriate in various fields at the high to the highest level. This was because the development and design of the curriculum was learner-centered. In organizing a forum to develop learning styles, learning representatives and experts were invited to provide their opinions on the development of curriculum, learning materials, and learning management processes that were in line with learners' needs. The elderly saw that the overall change from learning at individual level, group level, community level, and related department level was at the highest level. The change from learning was at the highest level in two areas: at the individual level and at the group level. The two high levels of learning change were: at the relevant department level and at the community level, respectively. It could be seen that learning styles were diverse and in line with learners' needs, resulting in learners being able to learn concepts, theories, and hands-on practice. In the end, there was a concrete learning achievement. Importantly, it may be seen that the learners have changed from the highest to the highest level. Consistent with the hypothesis testing results, it was found that after learning according to the given model, the elderly had a statistically significantly higher mean score after participating in the study at the .05 level.

VI. ACQUISITION OF NEW KNOWLEDGE

Learning management according to the distance learning model through group processes on food safety and organic agriculture for the health of the elderly can be divided into 2 phases: Phase 1 - Comprehension - The phase focused on content-based learning, and Phase 2 - Access and

development. - The phase focused on learning from practice. The learning model of the elderly was highly aligned with older needs, including flexible learning model, blended self-learning model, learner-centered learning model, and appropriate learning models in each area. A learning approach suitable for elderly focused on hands-on action, field trips as early activities, learning managers as learning advocates, and voluntary learners. Importantly, the learning media should be appropriate for the elderly and easily accessible as shown in Figure 3.
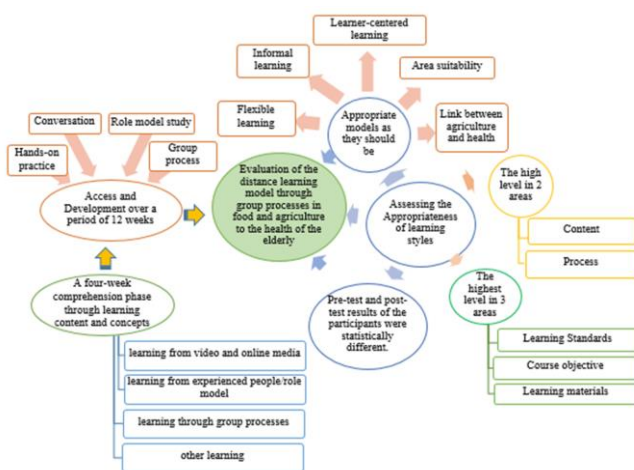

Figure 3. Learning management based on the distance learning model through group processes on food safety and organic agriculture for the well-being of the elderly

VI. RECOMMENDATIONS

A. Recommendations for Practices

1. Recommendations on learning for the elderly

1) Self-improvement: The elderly should develop themselves through education and learning to apply them in their daily lives, such as producing safe food for household consumption, and taking care of the health of themselves and their families. Once the content-based learning in Phase 1 (Comprehension) is understood, seniors should develop a life plan and group plan to define activities in Phase 2 (Access and Development). A hands-on learning approach should be used to provide the elderly with skills and ability to apply them in daily life, leading to the creation of their own body of knowledge.

2) Learning: Elderly should adopt group learning because of the mutual exchange of knowledge, mutual assistance of group members, and learning through hands-on practice.

2. Recommendations for educational institutions and related agencies

1) The development of learning models for the elderly should be divided into 2 phases: Phase 1 - Comprehension - The phase focused on content-based learning, and Phase 2 - Access and development. - The phase focused on learning from practice.

2) The process of learning management for the elderly should consist of (1) Study tour is the first activity to open

the worldview of the elderly - In each study visit, lessons learned must be summarized to ensure that the learner as an older person achieves the goals of the study visit. (2) Learning from various media - As the seniors open up their horizons, they become more interested in learning from the course materials. (3) Continuous learning support from learning managers and related departments in terms of knowledge, budget, location, including follow-up, and encouragement. (4) Learning evaluation - The elderly are self-assessed learning outcomes.

3) There should be a variety of learning methods for the elderly that are in line with the needs of the elderly, namely, (1) hands-on learning (2) learning through a group process for members to exchange knowledge with each other and provide mutual assistance (3) organizing field trips by means of study trips to open up the worldview of the elderly, and (4) learning from a variety of media, including course media and additional media such as personal media, and online media

4) There should be continuous support for learning for the elderly both in the process of learning management where the learning manager acts as a learning facilitator, including knowledge support such as inviting speakers for special lectures, budget support for learning activities, as well as support for follow-up, visits, and encouragement from relevant agencies.

5) There should be an assessment of the opinions of the elderly regarding the appropriateness of the curriculum learning management model in 7 areas as follows: 1) appropriateness of course objectives 2) appropriateness of course content 3) appropriateness of media, equipment, documents, and locations, qualifications of learners, learning managers, and support teams 4) appropriateness of curricular learning management process 5) appropriateness of curriculum learning standards 6) Comments on other model learning activities, and 7) opinions on learning changes at individual, group, community, and organizational levels.

B. Recommendations for Further Research

1. Research studies should be conducted to evaluate various media used in managing distance learning through group processes on food safety and organic agriculture towards the well-being of the elderly in order to develop and improve media.

2. Research and development of media, information, and digital literacy measurement tools should be undertaken to promote learning among the elderly in various forms such as interviews, observation forms, or evaluation forms.

3. Different learning models should be compared suitable for managing distance learning through group processes on food safety and organic agriculture towards the well-being of the elderly.

4. Research should be conducted on the follow-up and assessment of distance learning management through group processes on food safety and organic agriculture towards the well-being of the elderly.

CONCLUSION

In conclusion, learning management was divided into two phases: Phase 1 - Comprehension - The phase focused

on content-based learning, concepts, principles and knowledge that the elderly could apply in their daily lives. It took at least 4 weeks (1 month). Phase 2 - Access and development - The phase focused on learning from practice for the transition towards safer farming, organic farming and health care for the elderly. It took about 12 weeks (3 months). The appropriate learning model should have the following characteristics: flexible learning model, blended self-learning model, learner-centered learning model, appropriate learning models in each area, connected learning model between farming and health care of the elderly. A learning approach suitable for elderly focused on hands-on action, field trips as early activities, learning managers as learning advocates, and voluntary learners. Importantly, the learning media should be suitable for the elderly and easily accessible.

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