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The development of life and family curriculum according to theory of reasoned action in association with active learning concept

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Abstract

This research aimed to 1) study the actual state and the desirable state preparing for the development of life and family curriculum, 2) develop life and family curriculum according to theory of reasoned action in association with active learning concept, and 3) study the implementation results. Instruments used in this research were questionnaires, lesson plans, evaluation form, and an achievement test. Data were analyzed by percentage, mean, standard deviation, and content analysis. Results of the research were found that most of informants agreed for curriculum development of life and family curriculum for lower secondary school students. There were 16 lesson plans that consisted of learning management activities, active learning management, and theory of reasoned action. Moreover, it was indicated that the curriculum efficiency was overall at 85.20/77.52 passing the determined criteria 70/70. After implementing life and family curriculum, the average scores after learning were higher than the average scores before learning life and family curriculum for lower secondary school level; 581 lower secondary school students were satisfied with learning management at a high level in the learning atmosphere, learning management activities, and the benefits; and 3 health education teachers were satisfied with the components of the developed curriculum in overall at a high level.

Keywords: Life and family, curriculum, theory of reasoned action, active learning
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1. Introduction

Due to National Education Act B.E. 2542 (1999) [17] stipulated in section 23 to define education to give emphases to knowledge, morality, learning process, and integration of the following, depending on the appropriateness of each level of education in terms of knowledge about oneself and the relationship between oneself and society, namely: family, community, nation, and world community. In accordance with the Basic Education Core Curriculum B.E. 2551 (A.D. 2008) [2], determined the management of school curriculum with the learning standards which had prescribed eight learning areas, and health and physical education was one of learning area identifying that health or state of health to define the human condition with full development in all respects-physical, mental, social and intellectual or spiritual. Health or state of health was therefore important, as it was linked to all dimensions of life; all should learn about health for acquisition of knowledge, accurate understanding with proper attitude, morality and appropriate values, as well as practical skills in health for acquiring hygienic habits, resulting in the achievement of a society of quality.

Curriculum was assumed a reflection of social surrounding. Therefore, the curriculum development must be based on the social change. It was clear that health education had met the challenges same as any programs in school. Thus, Taba introduced notions of multiple educational objectives and four distinct categories of objectives (basic knowledge, thinking skills, attitudes and academic skills). This approach allowed Taba to relate specific teaching / learning strategies to each category of objectives. International Bureau of Education, UNESCO [12].

Regarding the active learning concept, Cambridge International Education Teaching and Learning Team [7] mentioned concerning the benefits of active learning, active learning helped students to become 'lifelong learners'. In an active learning approach, learning was not only about the content, but was also about

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the process. Active learning developed students' autonomy and their ability to learn. Active learning gave students greater involvement and controlled over their learning. Encouraging active learning helped students to achieve higher grades, based on their enhanced skills and understanding. Moreover, J. B. Cynthia [13] quickly guided that active learning activities in-person courses started with short activities that posed low risk for both instructors and students, required limited change to your current instructional methods, and provided an opportunity for students to organize and clarify their thinking, teachers asked students a question that engaged higher-order thinking skills (analysis, evaluation, and synthesis), encourage students to think briefly about an answer, then discussed their responses with a peer and shared responses with the group and discuss.

Likewise, concerning the theory of reasoned action in association, F. Martin [9] suggested that a person's behavior was determined by their intention to perform the behavior and that this intention was, in turn, a function of their attitude toward the behavior and subjective norms. The best predictor of behavior was intention or instrumentality (belief that the behavior would lead to the intended outcome). Instrumentality was determined by three things: their attitude toward the specific behavior, their subjective norms, and their perceived behavioral control. The more favorable the attitude and the subjective norms and the greater perceived control, the stronger the person's intention to perform the behavior.

Besides, L. Nicole [14] explained that many theories in health education and health promotion sought answers to the fundamental question of why people behaved the way they did. More specifically, theories were used to try to understand and predicted how and why people changed their unhealthy behaviors to healthier ones. In line with H. Curt and S. Bengt [10] studied health education in schools from information to empowerment models, it was summarized that school was considered to be a very important arena for health education among children and adolescents. Within the field of health education in school, there were nowadays manifold methods

As these results of the study mentioned above, the researcher considered the development of life and family curriculum should be based on the theory of reasoned action in association with active learning concept for lower secondary school students in line with the curriculum of health and physical education that met the needs of lower secondary school students and society especially, the learning area of life and family to response the learners' learning concerning the learners' values, life skills, and those of their families.

2. Research Questions

2.1 What are the actual state and the desirable state preparing for the development of life and family curriculum?

2.2 What is the development of life and family curriculum according to theory of reasoned action in association with active learning concept?

2.3 What are the implementation results of life and family curriculum according to theory of reasoned action in association with active learning concept?

3. Research Objectives

3.1 To study the actual state and the desirable state preparing for the development of life and life family curriculum.

3.2 To develop and family curriculum according to theory of reasoned action in association with active learning concept.

3.3 To study the implementation results of life and family curriculum according to theory of reasoned action in association with active learning concept.

4. Materials and Methods

The research process was divided into three phases as follows:

Phase 1: Study the actual state and the desirable state preparing for the development of life and family curriculum. Informants consisted of 33 school administrators, 33 health education teachers, 550 students from grade 10 (Mathayom Suksa 4), and 550 student parents. The instrument used was a questionnaire with reliability at 0.96 was divided into 2 parts: Part 1.1: The contents focused on life and family curriculum for lower secondary school students in aspects of self-appreciation, family, sex education, and life skills. Part 1.2: the development of life and family curriculum. Data were analyzed by percentage.

Phase 2: Develop life and family curriculum according to theory of reasoned action in association with active learning concept, the researcher divided into 3 parts as follows:

Part 2.1: Design lesson plans based on the content of life and family curriculum according to theory of reasoned action in association with active learning concept consisting of 3 components as follows: learning management activities, active learning management, and theory of reasoned action. Each lesson plan was divided by 4 steps 1) step of introduction; 2) step of learning management activities; 3) step of conclusion; and 4) step of evaluation. Key informants were the researcher and 2 health teachers. Instrument used was components of lesson plans. Data were analyzed by content analysis.

Part 2.2: Study the efficiency of life and family curriculum according to theory of reasoned action

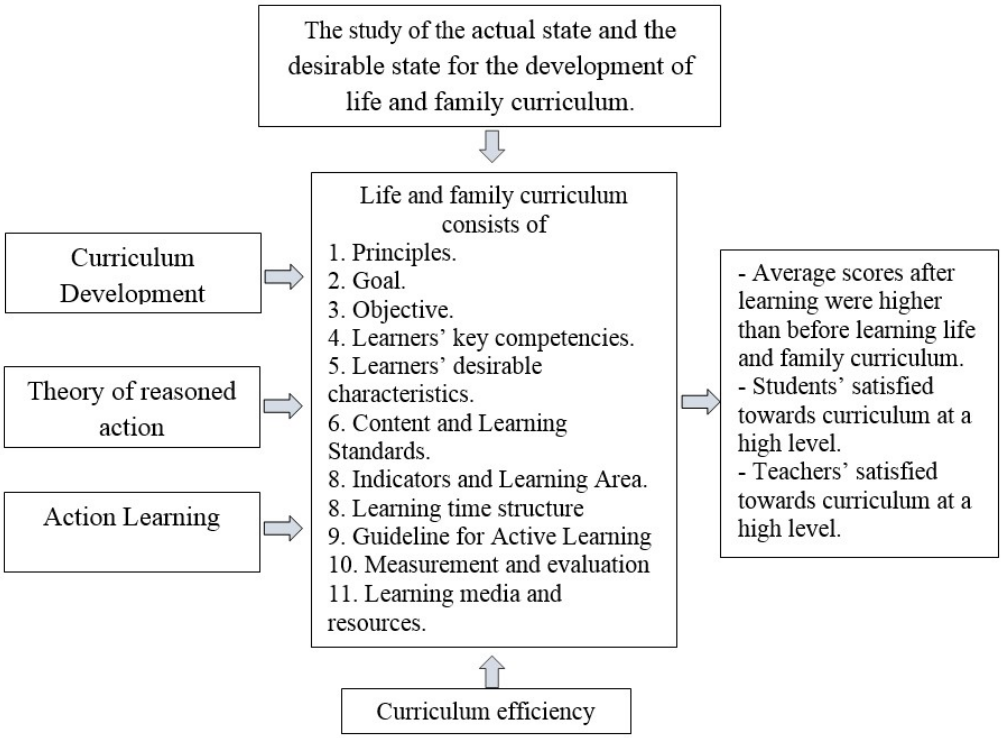

Figure 1: Research framework.

in association with active learning concept, the determined criteria was 70/70. Instrument used was an evaluation form applying the theory of reasoned action in association with active learning concept for the steps of learning management activities with reliability at 0.93. Informants consisted of the researcher and 2 health teachers. Data were analyzed by percentage.

Phase 3: Study the implementation results of life and family curriculum according to theory of reasoned action in association with active learning concept were as follows:

Part 3.1: Study the average scores of learning outcomes for lower secondary school students. Instrument used was an achievement test for evaluation that was verified by 5 experts, the Index of Item Objective Congruence (IOC) was at 1.00. Data were analyzed by percentage.

Part 3.2: Study the students' satisfaction towards learning management of life and family curriculum according to theory of reasoned action in association with active learning concept. Instrument used was a questionnaire with reliability 0.85 in terms of learning atmosphere students, learning management activities, and benefits. Informants were 581 lower secondary school students. Data were analyzed by mean and standard deviation.

Part 3.3: Study the teachers' satisfaction towards life and family curriculum according to theory of reasoned action in association with active learning concept for lower secondary school students in terms of 1) principles, 2) goal, 3) objective, 4) learners' key competencies, 5) learners' desirable characteristics, 6) learning time structure, 7) learning areas, 8) learning management activities, 9) learning measurement and evaluation, 10) learning media and resources. Informants consisted of the researcher and 2 health teachers. Data were analyzed by mean and standard deviation.

The research framework was as shown in Figure 1.

5. Results and Discussion

The results of this research were as follows:

Phase 1: The actual state and the desirable state preparing for the development of life and family curriculum. Informants consisted of 33 school administrators, 33 health education teachers, 550 students from grade 10 (Mathayom Suksa 4), and 550 student parents were divided into 2 parts as follows:

Part 1.1 Informants expressed opinions concerning the contents focusing on life and family curriculum for lower secondary school students as shown in table 1.

From Table 1, 13 school administrators, 175 students from grade 10 (Mathayom Suksa 4) and 275 student parents from grade 10 (Mathayom Suksa 4) expressed opinions concerning the contents focusing on life and family curriculum for lower secondary school students in terms of self-appreciation at the highest numbers of 39.39, 31.82 and 50.00 percent, respectively; and 10 health education teachers expressed opinions in terms of life skills at the highest numbers

Table 1. Percentage of the contents focusing on life and family curriculum for lower secondary school students.

Life and family curriculum	School administrators		H.E. teachers		Grade 10 students		Student parents	
	Numbers	Percent	Numbers	Percent	Numbers	Percent	Numbers	Percent
1. Self-appreciation.	13	39.39	8	24.24	175	31.82	275	50.00
2. Family.	12	36.37	8	24.24	100	18.18	103	18.73
3. Sex education.	3	9.09	7	21.22	120	21.82	18	3.27
4. Life skills.	5	15.15	10	30.30	155	28.18	154	28.00
Total	33	100	33	100	550	100	550	100

of 30.30 percent in accordance with the Basic Education Core Curriculum B.E. 2551 (A.D. 2008) [2] stipulated students to understand, accept and are able to adjust themselves to changes in various respects-physical, mental, emotional; sexual feelings; gender equality; create and maintain relationship with others, and make decisions for solving life problems with appropriate methods.

Part 1.2 Informants expressed opinions concerning the development of life and family curriculum for lower secondary school students as shown in table 2.

From Table 2, most of informants agreed with the development of life and family curriculum. All school administrators agreed concerning the development of life and family curriculum at the highest numbers of 100.00 percent; 24 health education teachers agreed at the highest numbers of 72.72 percent, 487 students from grade 10 (Mathayom Suksa 4) agreed at the highest numbers of 68.54 percent, and student parents agreed at the highest numbers of 92.72 percent. Certainly, the curriculum should be adjusted consistent with A. Onthanee [1] who studied the perspectives on Curriculum Development through the National Scheme of Education B.E. 2560 – 2579', it was found that an importance of putting the policies into practice was developing an appropriate curriculum should consist with current contexts, solved problems and met social needs. The curriculum based on the National Scheme of Education B.E.2560-2579 emphasized on integrated knowledge. Designing to help students prepare their life in the real world. Focus on lifelong education. Learn to construct knowledge. The students improved their skills and positive attitudes, have a confidence and self-respect. Moreover, R. Witawat, W. Kritsadarat, and T. Surat [17] studied to revise the curriculum and teaching style to prepare marketers for the Thailand 4.0 era', it was found that at present, there had been many changes to students' behaviors from their ability to search for information in the digital world that was highly accessible as well as industries' need's with regards to talents joining their companies that had immensely changed from what they have previously expected of graduates.

Phase 2: The development of life and family curriculum according to theory of reasoned action in association with active learning concept, the researcher divided into 3 parts as follows:

Part 2.1: The life and family curriculum were defined into 11 components: 1) principles, 2) goals, 3) objectives, 4) learners' key competencies, 5) learners' desirable characteristics, 6) content and learning standards, 8) indicators and learning area, 8) learning time structure, 9) guideline for active learning, 10) measurement and evaluation, 11) learning media and resources. The lesson plans based on the content of life and family curriculum according to theory of reasoned action in association with active learning concept. There were 16 lesson plans for lower secondary school students consisting of 3 components as follows: learning management activities, active learning management, and theory of reasoned action. Each lesson plan was divided by 4 steps 1) step of introduction consists of: 1.1) learners are eager to study and research from google.com using their own mobile phone, 1.2) learners watch VDO clip, 1.3) learners read questioned issues from web board, 1.4) learners share opinions from answering questions, and 1.5) learners write to describe the reasons; 2) step of learning management activities consists of: 2.1) learners are divided into groups and discussion, 2.2) learners share opinions from answering questions, 2.3) learners share analyzing, 2.4) learners present the task, 2.5) learners cooperate in searching information, and 2.6) learners tell stories; 3) step of conclusion consists of: 3.1) learners share conclusion in writing, 3.2) learners present the analysis results and express group opinions; and 4) step of evaluation consists of: learners have self-evaluation by writing feelings after participating activities, such as telling what they have learned in this hour, learners and friends participate in group activity, such as comments, learners are very satisfied with the learning because the learners gain learning and the obtained knowledge was used to benefit for family and society.

Similarly, Cambridge International Education Teaching and Learning Team [7] mentioned concerning the benefits of active learning, in an active learning approach, learning was not only about the content, but was also about the process. Active learning developed students' autonomy and their ability to learn. Active learning gave students greater involvement and control over their learning. Encouraging active learning helped students to achieve higher grades, based on their enhanced skills and understanding. Moreover, J. B. Cynthia [13] guided that active learning activities in-person courses provided an opportunity for stu-

Table 2. Percentage of the development of life and family curriculum.

The development of life and family curriculum	School administrators		H.E. teachers		Grade 10 students		Student parents	
	Numbers	Percent	Numbers	Percent	Numbers	Percent	Numbers	Percent
1. Agree.	33	100	24	72.72	487	68.54	510	92.72
2. Disagree.	0	0	9	27.27	63	31.46	40	7.28
Total	33	100	33	100	550	100	550	100

dents to organize and clarify their thinking, teachers asked students a question that engages higher-order thinking skills (analysis, evaluation, and synthesis), encouraged students to think briefly about an answer, then discussed their responses with a peer and share responses with the group and discuss. Additionally, S. Sittipong [18], studied the development of active learning management ability in the 21st century for high school students, the research finding were most students had the active learning ability to learn proactively in fair level, and the students studied with the developed learning model had the ability in the used of active learning ability and learning achievement higher than the students studied with usual instruction.

Regarding the theory of reasoned action in association was included in steps of learning management activities, when learners was believed that the learning content was useful and good for the learners to apply, learners would show good behavior in daily life. When learners believed that whatever were important to make family members love, respect and cooperation to live together happily and teachers and friends desire the learners to have a good attitude in family, they could accept and adapt, and effect to the learners to express good behaviors. Similar to F. Martin. [9] suggested the theory of reasoned action (TRA) that a person's behavior was determined by their intention to perform the behavior and that this intention was, in turn, a function of their attitude toward the behavior and subjective norms. The best predictor of behavior was intention or instrumentality (belief that the behavior would lead to the intended outcome). Instrumentality was determined by three things: their attitude toward the specific behavior, their subjective norms, and their perceived behavioral control. The more favorable the attitude and the subjective norms and the greater perceived control, the stronger the person's intention to perform the behavior.

Part 2.2: The efficiency of life and family curriculum according to theory of reasoned action in association with active learning concept, the determined criteria was 70/70 as shown in table 3.

From table 3, the total evaluation scores during implementing life and family curriculum according to theory of reasoned action in association with active learning concept were 85.20 and after implementing life and family curriculum according to theory of reasoned action in association with active learning concept for lower secondary school students were 77.52, higher than the determined criteria 70/70. it was indicated that the curriculum efficiency was used to apply for lower secondary school students similar to C. Singha, W. Aimutcha, and S. Suchart Somprayoon [5], who had studied of the development a health and physical education curriculum for Buddhist novices at the seventh grade students of Pharapariyattidhamma Schools, the experiment revealed that mean scores of knowledge, attitude and practices of the experimental group before and after the experiment evaluation showed significant differences at the .05 level; the effectiveness of the curriculum was scored 78.50/74.73 showed higher than determined standard scores (70/70. Besides, S. Ubonrat Sirisukpoca and S. Paisan Simalaotao. [19], evaluated to increase student achievement of students in third grade by teaching media with the application of local wisdom on geographical maps and the content offered through augmented reality, the results showed that assessing the consistency of content from experts with an average of 0.88, media teaching efficiency criteria was 89.15/88.45, an achievement test scores of the students were learning and teaching materials. On the other hand, C. Nutchanat, A. Somsak, and W. Mongkol [4], who evaluated performance of the developed teaching process by implementing in professional experience course to train pre-service teachers The performance (E1/E2) of the developed learning model was found to equal 72.35/81.15 which performance (E1) was lower than the standard criterion of 80/80.

Phase 3: Study the implementation results of life and family curriculum according to theory of reasoned action in association with active learning concept were as follows:

Part 3.1: The average scores of learning outcomes for lower secondary school students from the achievement test.

From table 4, the average scores of learning outcomes for lower secondary school students concerning knowledge, attitudes, and practices after learning life and family curriculum were higher than average scores before learning life and family curriculum and more than 50 percent. Correspondingly, I. Anchalee, C. Banyat, and C. Nuansri, [11 studied a development of additional course curriculum on life skills usage for grade 8 students, the results of the study were as follows: 1) The developed additional course curriculum on life skills were consisted of rationale, objectives, contents, curriculum aims, constructing of curriculum, activity process and evaluation. The quality

Table 3. The efficiency of life and family curriculum according to theory of reasoned action in association with active learning concept for lower secondary school students.

Lower secondary school level	Evaluation scores during implementing life and family curriculum (40 scores)	Evaluation scores after implementing life and family curriculum (40 scores)	The efficiency of life and family curriculum
Grade 7	34.89	28.44	87.22/71.10
Grade 8	33.39	30.79	83.47/76.97
Grade 9	33.98	33.80	84.95/84.50
Total	34.08	31.01	85.20/77.52

Table 4. Percentage of learning outcomes concerning knowledge, attitudes, and practices for lower secondary school students.

Lower secondary school level	Average scores before learning life and family curriculum (40 scores)	Average scores after learning life and family curriculum (40 scores)
Grade 7 (Mathayom Suksa 1)	26.97	28.44
Grade 8 (Mathayom Suksa 2)	30.09	30.79
Grade 9 (Mathayom Suksa 3)	31.90	33.80

of curriculum which was assessed by experts revealed that curriculum was appropriate at a very high level. 2) After training, grade 8 students had had more life skills such as communication skill, decision making skill and health lifestyle skills than before. In addition, C. Kasem, W. Aimutcha, and U. Tumrong [3] studied a proposed model of health education learning management using collaborative learning and knowledge management to enhance cognitive skills', the results of the effectiveness of the health education learning management model using collaborative learning and knowledge management to enhance cognitive skills were found that mean scores of cognitive skills were higher significantly than before experiment and mean scores of health education achievement (knowledge, attitudes, and practice) were higher significantly than before experiment.

Besides, L. Nicole [14] explained that many theories in health education and health promotion sought answers to the fundamental question of why people behave the way they did. More specifically, theories were used to try to understand and predicted how and why people changed their unhealthy behaviors to healthier ones.

Part 3.2: Study the students' satisfaction towards learning management of life and family curriculum according to theory of reasoned action in association with active learning concept for lower secondary school students in terms of learning atmosphere students, learning management activities, and benefits at a high level in line with C. Wanwisa and P. Aree [6] developed a supplementary course in the learning area of occupations and technology, the lesson course manual and lesson plans were suitable high positive and students were satisfaction in supplementary course on high positive. Similarly, S. Sittipong [18] developed of active learning management ability in the 21st century for high school students, the satisfactions of learning with the developed learning model were rated at a 'much' level.

Part 3.3: Study the teachers' satisfaction towards life and family curriculum according to theory of reasoned action in association with active learning concept for lower secondary school students in terms of 1) principles, 2) goal, 3) objective, 4) learners' key competencies, 5) learners' desirable characteristics, 6) learning time structure, 7) learning areas, 8) learning management activities, 9) learning measurement and evaluation, 10) learning media and resources.

Accordingly, E. Pearly [8], stated that the components of curriculum was divided into four major components or elements of curriculum consisting of curriculum aims, goals and objectives; curriculum content or subject matter; curriculum experience, instructional strategies and methods; and curriculum evaluation. Moreover, C. Singha, W. Aimutcha, and S. Suchart [5] developed a health and physical education curriculum for Buddhist novices at the seventh grade students of Pharapariyattidhamma schools, it was found that the curriculum was developed with the components of school vision, concepts, goals, desired characteristics, strands, curriculum content, learning standard, indicators, additional areas of learning, extra curriculum content, learning time structure, learning management guidelines, evaluation method and media and resources including learning teacher 21 activities. Similarly, P. Saowarose and W. Montree [15] studied the development curriculum for sixth grade science teachers in learning management based on education 4.0', it was found that there were 6 components of the curriculum development, course objectives, course content, teacher development process, course materials, measurement and evaluation. Whereas the activities for developing teachers was based on workshop, practice learning, mentoring, supervision, reflection and lesson learner, which was a very suitable teacher development curriculum. And consistent in every item.

Another point of this, C. Kasem, W. Aimutcha, and U. Tumrong Udonpijitkul [3] found the proposed

model of health education learning management using collaborative learning and knowledge management to enhance cognitive skills consisted of 4 components: i.e., 1) principles and concepts, 2) objectives, 3) learning process, and 4) learning assessment and the learning process steps were composed of 8 steps:, 1) group working 2) mixed ability segmentation 3) cooperation 4) activities focus on responsibility and collaboration 5) thinking and group working 6) organizing knowledge resources for the most benefit 7) managing the processes of creating and knowledge collection and 8) valuable the knowledge resources.

6. Conclusion

It could be concluded that the development of life and family curriculum according to theory of reasoned action in association with active learning concept for lower secondary school students was able to be applied for the teaching and learning management of health and physical education curriculum in strand 2: Life and family learning area in addition to the Basic Education Core Curriculum B.E. 2551 (A.D. 2008) under Ministry of Education. The research had developed curriculum according to the various steps, it was found that 1) there were 11 curriculum components consisted of: 1.1) principles, 1.2) goals, 1.3) objectives, 1.4) learners' key competencies, 1.5) desirable characteristics, 1.6) learning standards, 1.7) indicators and learning areas, 1.8) learning time structure, 1.9) active learning concept, 1.10) measurement and evaluate guidelines, 1.11) learning media and resources; and 2) Lesson plans consisted of: 2.1) overview, 2.2) learning objectives, 2.3) learning area / content, 2.4) learning management activities, 2.5) learning media / learning resources, and 2.6) measurement and evaluation.

7. Recommendations

Regarding the development of life and family curriculum according to theory of reasoned action in association with active learning concept for lower secondary school students, the researcher summarized the concepts and proposed recommendations for the research results as follows:

7.1 The result of the research showed that life and family curriculum according to theory of reasoned action in association with active learning concept for lower secondary school students causing learners at lower secondary school level had higher scores of learning outcomes. Therefore, health education teachers of schools under the St. Gabriel Foundation should use this developed curriculum as a guideline for organizing learning processes in the learning areas of health and physical education in addition to the Basic Education Core Curriculum B.E. 2551 (A.D. 2008), in order to develop learners to increase more learning outcomes and promoting a better life and family.

7.2 The active learning management that proposed in the lesson management plan was only one method that the researcher had analyzed and synthesized. Therefore, health education teachers could change the style of active learning management appropriate with the learners and the context of each school.

7.3 Changing behavior of students' attitudes and practices required a long time to change behavior. Therefore, learning evaluation in terms of attitudes and practices, should take long time enough to indicate that learners had changed behavior according to life and family curriculum according to theory of reasoned action in association with active learning concept for lower secondary school students more clearly.

8. Recommendation for Further Research

8.1 Life and family curriculum should be developed according to theory of reasoned action in association with active learning concept for lower secondary school students in order to develop learners to get higher learning outcomes and promoted better life and family

8.2 There should be a study of the effect of using life and family curriculum according to theory of reasoned action in association with active learning concept for lower secondary school students towards other variables, such as student competencies, etc.

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References

[1] A. Onthanee, Perspectives on curriculum development through the national scheme of education B.E. 2560-2579, Journal of Education Naresuan University 22(1) (2018).

[2] Bureau of academic affairs and educational standards, Office of the National Education Commission. Basic education core curriculum B.E. 2551, Bangkok: The Agricultural Cooperative Federation of Thailand Limited, 2008.

[3] C. Kasem, W. Aimutcha, U. Tumrong, A proposed model of health education learning management using collaborative learning and knowledge management to enhance cognitive skills, http://cuir.car.chula.ac.th/handle/123456789/50280 (accessed 17 December 2019)

[4] C. Nutchanat, A. Somsak, W. Mongkol, Professional experience teacher training based on creative thinking competency using the KWSLPA learning model, Interdisciplinary Research Review 12(6) (2017) 27-34.

[5] C. Singha, W. Aimutcha, S. Somprayoon, Development a health and physical education curriculum for Buddhist novices at the seventh grade students of Pharapariyattidhamma schools, (2015), http://lib.edu.chula.ac.th/FILEROOM/CU_THESIS/

DRAWER003/GENERAL/DATA0002/00002690.PDF. (accessed 17 December 2019).

[6] C. Wanwisa, P. A. Preedeekun, The development of a supplementary course in the learning area of occupations and technology entitled "Bamboo Weaving" for Grade 5th Students at Watdankururadautid School, Humanities and Social Sciences Journal of Graduate School, Pibulsongkram Rajabhat University 11(2) (2017) .

[7] Cambridge International Education Teaching and Learning Team. Getting started with Active Learning, 2019, https://www.cambridge-community.org.uk/professional-development/gswal/index.html. (accessed 17 December 2019).

[8] E. Pearly, Components of Curriculum, 2015, https://www.slideshare.net/adirepse15/components-of-curriculum-51575713. (accessed 17 December 2019).

[9] F. Martin, A Reasoned Action Approach to Health Promotion, Medical Decision Making 28(6) (2008) 834 – 844.

[10] H. Curt, S. Bengt, Health Education in Schools—From Information to Empowerment Models, Health Promotion International 12(3) (1997).

[11] I. Anchalee, C. Banyat, and C. Nuansri, A Development of Additional Course Curriculum on Life Skills Usage for Grade 8 Students, Humanities and Social Sciences Journal of Graduate School, Pibulsongkram Rajabhat University 10(2) (2016) 228 – 243.

[12] International Bureau of Education, UNESCO. Training Tools for Curriculum Development: A Resource Pack, 2014, http://www.ibe.unesco.org/fileadmin/user_upload/Publications/Training_tools/IBE-CRP-2014_eng.pdf. (accessed 17 December 2019).

[13] J. B. Cynthia. Active Learning, 2019, https://ctle.vcu.edu /media/ctle/images/ActiveLearningQuickGuide.pdf. (accessed 17 December 2019).

[14] L. Nicole. Theories & Approaches: Theory of Reasoned Action (TRA), 2018, http://recapp.etr.org/recapp/index.cfm?fuseaction=pages.TheoriesDetail&PageID=517 (accessed 17 December 2019).

[15] P. Saowarose, W. Montree,The Development Curriculum for Sixth Grade Science Teachers in Learning Management Based on Education 4.0, Dhammathas Academic Journal 18(3) (2018).

[16] R. Witawat, W. Kritsadarat, T. Surat, Revising the curriculum and teaching style to prepare marketers for the Thailand 4.0 era, Journal of Multidisciplinary Academic Research and Development 1(1) (201)9.

[17] Royal Thai Government Gazette, B.E. 2542, National Education Act B.E. 2542, 116 (74) (1999) 1 – 23.

[18] S. Sittipong, Development of active learning management ability in the 21st century for high school students, Ubon Ratchathani Journal of Research and Evaluation 7 (2) (2018).

[19] S. Ubonrat Sirisukpoca, S. Paisan Simalaotao. Increase student achievement of students in third grade by teaching media with the application of local wisdom on geographical maps and the content offered through augmented reality. Interdisciplinary Research Review, 11(3) (2016) 24 – 31.