Innovative Curriculum Development for Vocational Skill Enhancement and Learning Solution for Underprivileged Youths Using Community Learning Resources in Chaiyaphum Province

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Abstract

This research on the curriculum development for vocational skill enhancement and learning solution for the underprivileged youths using community learning resources aims to 1) Study basic information regarding curriculum development 2) Design and develop the curriculum 3) Implement in using the curriculum 4) Evaluate the effectiveness of the curriculum 5) Expand the results in applying the curriculum. The target group in this research includes underprivileged youths in education. The tools used in the research consist of the curriculum of vocational skill development and solving of learning problems, the user manual, and the learning management unit. The data obtained are analyzed by examining the suitability of the curriculum and it is found that 1) results in studying fundamental information reveal that a career-focused curriculum should be developed 2) curriculum development results are of high quality and with an efficiency value of 82.40/92.39 3) results of the curriculum experiment revealed that the youths are capable of creative problem-solving. And the average value of professional characteristics is at a high level. 4) For the effectiveness of the curriculum with respect to course documents, manuals, and learning management units, all are appropriate and consistent with practical uses at the highest average level. As for learning outcomes, it is found that youth with educational unprivileged youths have skills in solving vocational learning problems at a high level. 5) As for the results of the curriculum expansion, in terms of learning outcomes, the youth have creative learning skills while vocational characteristics in the learning are found to be at a high level.

Introduction

Thailand is facing a youth development problem that needs the solutions urgently in providing youths education and skills necessary for becoming qualified adults in the future by focusing on underprivileged youth who do not have access to educational opportunities and self-improvement such as in adolescents from poor families and teen mom groups, people with disabilities and underprivileged adolescents. Many young people lack access to basic services and support. According to a recent report by the International Labor Organization, of an estimated 1.3 million people aged 15-24 in Thailand are not in the education or employment system while adolescent girls give birth to an average of 300 children a day, most of them drop out of school and face obstacles in accessing future employ-

ment opportunities (UNICEF for every child Thailand https://www.unicef.org/) - retrieved on 30 June 2018). Problems of education disruption in children are found to still exist in more than 263 million people worldwide including disparities in access to learning resources, blocking of thinking space and democratic area, authoritarianism dominating children and youth. Such groups of unprivileged youth are at risk of becoming uneducated adults lacking the job skills required in the labor market. This is because they lack the skills necessary in the adaption to become part of the country's economic momentum. However, the problems of sensitive children and those groups living in juvenile detention centers still even reflect the production of unqualified youths hidden with invisible violence (Sompong Chitradup, 2019 https://workpointtoday.com Knowledge

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for the Society. retrieved 22 September 2019). The Twelfth National Economic and Social Development Plan (2017-2021) (Office of the National Economic and Social Development Board. 2017: 63-64) has defined the objectives of development in laying the foundation for Thai people to be skilled, knowledgeable, and capable in continually developing themselves throughout their lives with the improvement of curriculum and learning processes to be updated to keep up with the changes of the world in the 21st century by focusing to develop learners at all levels to have knowledge, skills, and qualifications under the Thai social context according to the provisions of the National Education Act, B.E. 2542 with the reasons under Section 27 and for the education management for the profession and for building the country's competitiveness so as learners have suitable career and income. It's a lifelong education. (Ministry of Education, 1999) The Curriculum of Basic Education Level following the National Education Act of 1999, Section 8 stipulates the education management based on the principle of lifelong education, and Section 15 specifies that there are three types of education management including formal education; non-formal education, and informal education in tertiary level which emphasize on performance and competency. It is a link to either formal education or non-formal education and informal education to promote lifelong learning (The Government Gazette, 562)

Personnel development for future occupational skills to be a guideline for enhancing the efficiency of learning management in the 21st century has emphasized knowledge, skills, expertise, and competencies for use in living. The research is implemented to be in accordance with local conditions, e.g. basic competencies for future occupations and problem-solving skills for career development (Mariam Nilaphan, 2012). The results in the evaluation of prototype schools that use the curriculum reveal that the standards and indicators of the curriculum do not reflect the quality of learning. This is due to a lack of knowledge and understanding of curriculum management. Therefore, learning design should include solutions to problems such as creating documents and research materials,

monitoring problems in using the curriculum, providing a forum in exchanging knowledge, while continuously develop and improve courses systematically (Mariam Nilaphan, 2015) Results of the research on the development of the teacher development model with respect to curriculum conversion into learning (Wichai Wongyai, 2012) reveal the effectiveness of the development of students at a high level in every aspect. This indicates the importance and correlation between the quality of innovation created, documents prepared for the most benefit to students which is in line with the learning of underprivileged children in Thai society. In the future, there will be a way to reduce social inequality on the dimension of equality and inequality to build immunity for underprivileged children under the changes of society using the process in enhancing life and career, improving health, and enhancing learning (Kornwipha Konkaew, 2016). Youth are required to have integrated learning skills focusing on learners using learning innovation and assessment based on actual conditions from the practice (Pimpan Techakupt and Phayao Yindeesuk, 2005). The curriculum must be developed based on alternative knowledge to enable youths in areas where access to educational opportunities is not possible and to allow a group of young people from poor families to learn from real-life scenarios. This will open the world of community-based learning, resulting in a process of learning, adaptation, and collaboration of local universities and community scholars. As a result, university knowledge will be connected to underprivileged youths at the same time (Sompong Chitradub, 2019. Interview on the "area is the answer to education reform" https:// www.knowledgefarm.in.th retrieved on January 2, 2019) with vocational learning skills that will be integrated learning, focusing on learners, using learning innovations and assessment based on actual conditions from practice (Pimpan Techakupt, 2005), learning that focuses on allowing individuals to learn according to their competencies and develop their potential while choosing their styles of study as required and flexible according to the occasion (Achanya Rattanaubon (2014). The course content of lifelong studies must be relevant to real life and meet the requirements and aptitudes of the learners, providing a variety of learning resources, analyzing the target audience of the recipient clearly while measuring and assessing their suitability with actual conditions (Sumalee Sangkhasri, 2001).

The researcher attends the teaching at the Faculty of Education Chaiyaphum Rajabhat University and conducts the research to create a body of knowledge and innovation to develop the locality, therefore, has synthesized the knowledge on the development of curriculum to enhance professional skills and learning problem solving for the educational underprivileged youths using community learning resources that are systematically planned and documented, which consist of 3 parts as follows: 1) curriculum development for enhancing vocational skill enhancement and learning solution for educational underprivileged youths using community learning resources 2) user manuals of the curriculum for vocational skill enhancement and 3) Learning Management Unit and Learning Management Plan of the curriculum for Vocational Skill Enhancement Program to be used as a guideline in the management of learning about the basic life of the youth to create professional skills and learning and to prepare them for the future career.

Research Objectives

- 1. To study basic information on curriculum development for vocational skill enhancement and learning solution for educational underprivileged youths using community learning resources
- 2. To design and develop the curriculum development for vocational skill enhancement programs and learning solution for educational underprivileged youths using community learning resources
- 3. To experiment in using the curriculum for vocational skill enhancement and learning solution for educational underprivileged youths using community learning resources
- 4. To evaluate the effectiveness of curriculum development for vocational skill enhancement and learning solution for educational underprivileged youths using community learning resources

5. To expand the implementation of the course of curriculum development for vocational skill enhancement and learning solution for educational underprivileged youths using community learning resources

Related Documents and Research Works

In this research on the curriculum development for vocational skill enhancement and learning solution for educational underprivileged youths using community learning resources, the researcher studies and synthesizes the concepts consisting of 1) Curriculum Concepts 2) Concepts of vocational skill curriculum 3) Learning skills 4) Vocational characteristics and vocational skills assessment guidelines 5) Community learning resources

Research Methodology

This research on the "curriculum development for vocational skill enhancement and learning solution for educational underprivileged youths using community learning resources" is a Mixed-Method research using Quasi-Experimental Design. The research model is of One Group Time-Series design, divided into 4 phases as follows:

Step 1 Research (R1): Study the basic information on "curriculum development for vocational skill enhancement and learning solution for educational underprivileged youths using community learning resources" The tools used to collect data include: group discussion form, interview form. The data analysis is conducted to find the percentage, mean and standard deviation values.

Step 2 Development (D1): Design the "curriculum development for vocational skill enhancement and learning solution for educational underprivileged youths using community learning resources" The research tools used include the curriculum of vocational skill enhancement and learning solution for educational underprivileged youths. The quality of tools is evaluated 2 times: the first time, the seminar with the expert, the 2nd-time, examination by 5 experts. Data obtained is analyzed to find for average and the standard deviation values. Finding the efficiency is conducted using a pilot study

with 50 educational underprivileged youths who participated in activities of vocational skill enhancement. The analysis of data is conducted to find the average, and standard deviation values. The content is analyzed and presented using descriptive writing.

Step 3 Research (R2): Experiment to apply the "curriculum development for vocational skill enhancement and learning solution for educational underprivileged youths using community learning resources" with 80 educational underprivileged youths in 2020 in Na Siew Sub-District Learning Center. The data analysis is conducted to find the average and the standard deviation values. And the content is analyzed and presented using descriptive writing.

Step 4 Development (D2): Evaluate the effectiveness and the extension of the "curriculum development for vocational skill enhancement and learning solution for educational underprivileged youths using community learning resources" and evaluate the vocational characteristics of educational underprivileged youths. Experiment to expand the "curriculum of vocational skills enhancement and learning solution with 200 educational underprivileged youths in the District Learning Center. The data analysis is conducted to find the average, and standard deviation values. The content is analyzed and presented using descriptive writing (Human Subjects Research Ethics Certificate No. 027/2019 December 1, 2019 - December 1, 2020, issued by the Faculty of Nursing, Chaiyaphum Rajabhat University)

Research Results

1. Study results of the basic information reveal that the results of educational management document analysis, focus group discussion and interviews with educational personnel suggest that a career-focused curriculum should be developed by the researcher to study the ideas of many educators and to synthesize according to the theoretical framework. As a result, there are four steps for curriculum development, as follows:

Step 1 Basic information study

Step 2 Curriculum design and development

Step 3 Curriculum implementation

Step 4: Evaluate the curriculum and the cur-

riculum expansion and synthesize the six learning problem-solving skills namely: defining situation, fact-finding, problem finding, idea finding, solution finding, acceptance of Finding, including synthesis of vocational characteristics consisting of a habit in loving studying, and having a job during school.

2. The results of the curriculum development for vocational skill enhancement and learning solutions consist of 3 parts: 2.1) Vocational skills enhancement course 2.2) Manual of the career integration course 2.3) Learning management unit and learning management plan of the vocational skill program. And research results reveal with the details, as follows.

2.1 Results of the research resulted in the curriculum of vocational skill enhancement and learning solutions for educational unprivileged youths which consisted of 8 parts, as follows: 1) Vision 2) Principle 3) Objectives 4) Structure/Content/Learning Time 5) Activity Guidelines 6) Guidelines for using learning resources in the community and media 7) Guidelines for result assessment and 8) Framework for the implementation of vocational skill course, consisting of the process in developing the curriculum of vocational skill enhancement and learning solution for the implementation of career integration curriculum.

Section 8.1) Needs Assessment Stage (NA) is a step to identify what needs to happen to the youth and how it looks like and to evaluate what it looks like in reality. Then the results will be analyzed and assessed for what actually happens as a guideline for further development

Section 8.2) The design process for developing the curriculum of vocational skill (D =Development), is a process that researchers and non-formal teachers and instructors jointly develop by planning for the implementation of the course with documentary components that teachers must study, including course documents, curriculum manual and learning management plans.

Section 8.3) Implementation is the step that the teacher uses the curriculum following the guidelines in the teacher manual and learning management plans which consist of the following parts: prepa-

ration, participation, practices resulting in skills and outcomes as several pieces of work, and presentation stage so as relevant parties participate in the assessment and dissemination of the work by taking successful works of the youths to publicize to the community.

Section 8.4) Reflection and Evaluation Stage (RE) is the process in implementing the results during and after the learning management, to be analyzed for the outcomes to consider the progress and learning outcomes of the youth which will lead to the organization of documents for curriculum assessment.

- 2.2 The results of the research resulted in a manual of "curriculum development for vocational skills enhancement and learning solutions for educational underprivileged youths using community learning resources", consisting of the following;
- 1) Guidelines in implementing the curriculum of vocational skill enhancement and learning solution for educational underprivileged youths
- 2) Background and the importance of the "curriculum of vocational skill enhancement and learning solution for educational underprivileged youths using community learning resources"
- 3) Fundamental concepts in the curriculum development for vocational skill enhancement and learning solutions for educational underprivileged youths using community learning resources
- 4) The components of the curriculum of vocational skill enhancement and learning solution for educational underprivileged youths using community learning resources
- 5) Learning units and learning management plans using the curriculum of vocational skill enhancement and learning solution for educational underprivileged youths.
- 2.3 The results of research resulted in the synthesis of the learning management units and the learning management plans of the "curriculum of vocational skill enhancement and learning solution for educational underprivileged youths using community learning resources", consisting of the following 8 learning units, as follows; Learning Unit 1: Community of

Sufficiency Economy Learning. Learning Unit 2: Herbs in the community. Learning Unit 3: Development of herbal products. Learning Unit 4: Nang Kham Por Pieng Herbal Soap. Learning Unit 5: Herbal shampoo. Learning Unit 6: Herbal balm. Learning unit 7: Herbal compress balls

Learning Unit 8: Career and Creative Learning and Public Relations. The curriculum development for vocational skill enhancement and learning solution for educational underprivileged youths has quality at a high level and an E1/E2 efficiency rate above the standard values at 82.40/92.39

- 3. From the results in the implementation of the curriculum in the integration of careers to promote creative problem-solving skills for educational unprivileged youths, the overall research findings reveal that educational unprivileged youths have the problem-solving learning skills at a high level while having vocational characteristics at a high level.
- 4. The effectiveness of the curriculum of vocational skill enhancement and learning solutions for educational underprivileged youths is divided into 2 parts, as follows:
- Part 1: Documents of the curriculum of vocational skill enhancement and learning solution, the manuals of the curriculum of vocational skill enhancement. The level of suitability and consistency of the Learning Units and Learning Management Plans of the vocational skill program is at the highest level.
- Part 2: Overall learning outcomes of educational underprivileged youths are found to be at a high level of creative problem-solving skills and vocational characteristics.
- 5. For overall results on the extension of the "curriculum of vocational skill enhancement and learning solution for educational underprivileged youths", it is found that the curriculum, the course manual, the Learning Management Unit, and Learning Management Plan, are appropriate for learning management for educational underprivileged youths while creative problem-solving skills and vocational characteristics are found to be at a high level.

Discussion

1. From the results of the study on basic information using the concepts of many educators namely Oliva (2013), Armstrong (2003), Wiles and Joseph, (2011), Wiles (2009), Posner, (2004), the researcher, therefore, plans to synthesize the management of curriculum composition and define steps for course development into 4 steps, as follows:

Step 1: Basic information study

Step 2: Curriculum Development

Step 3: Curriculum implementation

Step 4: Evaluation and extension of the curriculum.

There are 6 skills of learning problem-solving that have been synthesized, namely, Situation Defining, Fact Finding, Problem Finding, Idea Finding, Solution Finding, and Acceptance of Finding. The concept of vocational characteristics consists of the habit of loving to work, ethical behavior at work.

- 2. From the results of curriculum development for vocational skill enhancement and learning solution for educational underprivileged youths, there are 3 components as follows:
- 1) The curriculum of vocational skill enhancement consists of 8 parts: 1) Vision 2) Principle 3) Objectives 4) Structure/Content/Learning Time 5) Activity Guidelines 6) Guidelines for using learning resources in the community and media 7) Guidelines for result assessment and 8) Framework for the implementation of vocational skills training course.
- 2) The manual of the curriculum of vocational skill enhancement and
- 3) Learning Management Unit and Learning Management Plan

Instructors must apply vocational skill principles in organizing course materials and lead to learning management, according to Panya Thongnil (2011) who stated that the structure of the curriculum should be integrated into the learning, operation, and linked in the dimension of community and society. This is in line with the design of the learning unit of the researcher with teaching staffs in the curriculum of vocational skill enhancement and 8 learning units by integrating interdisci-

plinary 8 learning units with1 youth development activity in taking a study visit to a community of sufficiency economy and local herbs.

- 3. Regarding the experimental results of the "curriculum of vocational skill enhancement and learning solution for educational underprivileged youths using community learning resources", the overall findings reveal that youths have vocational and learning skills at the highest level, and the vocational characteristics are found to be at the highest level which is consistent with the results of the curriculum experiment of Chaweewan Talsuk (2015), which affected the students' competencies in terms of dependent variables at a higher level, indicating that the curriculum is effective and of high quality.
- 4. For the effectiveness of curriculum development of vocational skill enhancement and learning solutions for educational underprivileged youths using community learning resources, it is found that the effectiveness of the curriculum document resulted in youth problem-solving skills, learning, and vocational characteristics at a high level which is consistent with Sompong Chitradub (2019) who stated that learning in the community causes the learning process and the youth develop in defining the problems and make decisions on their own, being curious in learning, sharing tasks. Preparation in learning through this process will help find information capable of thinking and criticizing analytically, answering the practical questions. Such competency and skills are due to the result of the curriculum of vocational skill enhancement and learning solution for educational underprivileged youths using community learning resources that are designed and developed to be effective and can be used to further expansion for educational development.
- 5. For overall results in the expansion of the curriculum development of vocational skill enhancement and learning solution for educational underprivileged youths using community learning resources, it is found that the implementation of vocational skill enhancement program into learning management resulted in youth having creative learning skills and vocational characteristics at a high level, consistent with

the research results of Chong Duenpenporn Chaiphakdi (2521), who studied the curriculum development for the innovation of teaching creative productivity based on local herbal learning resources which found that works or outcomes derived from learning of the course reflect the learning that arises from the creativity of ap-

propriate learning resources in the community. Therefore, this curriculum of vocational skill enhancement and learning solution for educational underprivileged youths using community learning resources is appropriate to manage learning for educational underprivileged youths which should be extended to provide an oppor-

the curriculum development of vocational skill enhancement and learning solution for educational underprivileged youths using herbal learning resources of the community.

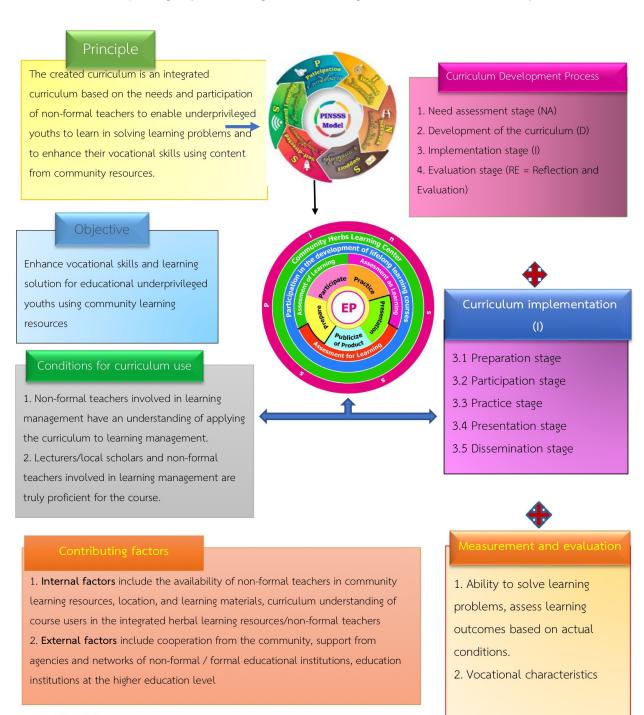


Chart 1

Chart 1: Curriculum of vocational skills and learning solution for educational underprivileged youths (Chong Duenpenporn Chaiphakdi, 2521)

tunity for youths in the community in applying the curriculum for enhancing their vocational skills and solving the problems of learning accordingly.

Suggestions for applying the research results 1. Policy recommendations

1.1 From the study of research background information, it is found that the curriculum for enhancing vocational skills and learning solution for educational underprivileged youths should be analyzed and synthesized to find guidelines in organizing community learning units, non-formal learning centers, and formal educational institutions in the community, to cover the needs of all youth groups having learning problems in the whole system so as to provide the youth with lifelong learning skills and basic vocational knowledge.

1.2 From the results of the development of vocational skill and learning solution for educational underprivileged youths, it is found that documentation of the curriculum of vocational skill enhancement and learning solutions for educational underprivileged youths should be prepared and complied systematically, checked for the quality and determined for the efficiency leading to the arranging of short training course to clarify, and train for non-formal teachers before actual implementation. This is to provide guidelines in implementing the "curriculum of vocational skill enhancement and learning solution for educational underprivileged youths" to manage the learning to achieve the required objectives.

2. Suggestions for the implementation of the vocational skill enhancement curriculum

2.1 The results in implementing the curriculum of vocational skill enhancement and learning solution for educational unprivileged youth reveal that the ability of problem-solving skills and vocational skills should be developed with practical learning management until resulting in skills to create productivity, works, and

products of youth which will lead to consumption, community leaders, and business operations.

2.2 Promotion and expansion for the development of skills and products to market through the Internet and bringing products and knowledge to exchange between provincial commercial departments should be implemented. This is consistent with the research results in the experimental stage of the vocational skill enhancement curriculum (Implementation) and the stage in expanding the researcher results. From the interview with the village scholars who volunteered as non-formal teachers in community learning centers, it is found that vocational skills training course is used as a guideline for learning management for the youth both formal and non-formal systems which results in activities that produce outcomes for the community encouraging youths to further their careers.

3. Suggestions for future research

The results of this research have provided the following issues that should be further studied:

- 3.1 Expansion of marketing opportunities for educational underprivileged youths should be implemented so as they can learn the career to survive on their own.
- 3.2 Career learning management should be designed in a form that is diverse according to the context of the community and social dynamics to be following the context where learning vocational skills of Thai youth in each region is needed.
- 3.3 The vocational skill program is a curriculum that can be used to design learning that develops other various skills. Designing additional learning units according to the competencies of educational underprivileged youths should be organized as a learning unit that can be integrated with the options in choosing according to their interests so as to guide teachers in designing lifelong learning. The result of this study can apply to any other places in Thailand.

References

- Ministry of Education. (2009). Basic Education Core Curriculum 2008. Bangkok: Agricultural Cooperative Federation of Thailand Printing House Co., Ltd.
- Kornwika Konkaew. (2016). The Format of the driving process for immunization of underprivileged children under the changes of society: a case study of an NGO in Bangkok. Thesis of the Applied Behavioral Science Research, Behavioral Science Research Institute, Srinakharinwirot University.
- Chaweewan Talsuk. (2015). Development of creative dance courses according to creative education management guidelines. For primary school students. Thesis of Doctor of Philosophy in Curriculum and Instruction Program, Graduate School, Silpakorn University.
- Duenpenporn Chaiphakdee (2021). Curriculum development for the innovation in teaching creative productivity based on learning resources of local herbs. Academic Journal of Curriculum and Instruction, Sakon Nakhon Rajabhat University, Volume 13, No. 36, January April 2021, pages 1-9
- Duenpenporn Chaiphakdee (2021). Participation in enhancing careers of the elderly using the wisdom in product processing of herbal fish food products. Journal of the Humanities and Social Sciences, Surin Rajabhat University, 21st year, No. 1 (2019): January-June, pages 295-308
- Niwat Boonsom. (2015). Development of teaching and learning patterns based on the concept of the creative problem-solving process to promote health innovations for scientifically talented students. Silpakorn Educational Research Journal 7 (1):123.
- Panya Thongnil. (2011). Development model in teaching competency by integrating the intervention for teacher students to enhance desirable characteristics of learners. Silpakorn Educational Research Journal 3(1):93.
- Phimphan Techakupt. (2005). 5C Skills for Learning Unit Development and Integrated Instructional Management. Chulalongkorn University Press. Bangkok
- Maream Nillapun. (2012). the Curriculum Assessment of Master of Education Degree in Curriculum and Instruction Program, Faculty of Education, Silpakorn University. Faculty of Education, Silpakorn University 7 (2):25.
- Maream Nillapun et al. (2015). Assessment of the use of the Basic Education Core Curriculum B.E. 2551 in prototype schools using the curricula. Silpakorn Educational Research Journal 11 (1):26.
- Rujiraporn Ramsiri. (2015). The development of science teaching and learning research-based models to promote research skills, creative problem-solving skills, and psychology of secondary school students. Silpakorn Educational Research Journal 7(1):110.
- Government Gazette. (2019). Vol. 136, Special Section 274. Page 32, November 8, 2019.
- Wichai Wongyai. (2012). Developing a teacher development model in the changes of curriculum to learning. Faculty of Education, Silpakorn University7(2):10.
- Office of the National Economic and Social Development Council, Office of the Prime Minister. (2017). the Twelfth National Economic and Social Development Plan (2017-2021) Retrieved on June 15, 2019 at www.nesdb. go.th/ewt_news.php?nid=6420.
- Sujarit Pianchob. (1990). the curriculum of characteristics and trends in the development. Bangkok: Department of Secondary Education, Faculty of Education, Chulalongkorn University
- Sompong Jitradup (2019) Interview on the Area is the Answer to Education Reform: https://www.knowledgefarm. in.th/ Retrieved on January 2, 2019).
- Sumalee Sangsri. 2001. Research Report on Lifelong Education for Thai Society in the 21st Century. 1st Edition.

 Office of the National Education Commission, Office of the Prime Minister. Bangkok: Photocopied
- Suwitida Jarungkiatkul. (2011). Lifelong Education and Lifelong Learning. Academic article on Definitions, Concepts, Characteristics of Lifelong Education. Bangkok: Chulalongkorn Press.

Achanya Rattanaubol. (2014). Lifelong Education and Lifelong Learning. Academic article on Definitions, Concepts, Characteristics of Lifelong Education. Bangkok: Chulalongkorn Press.

Armstrong. David G. (2003). Curriculum today. New Jersey: Merrill Prentice Hall. Isaken, S. G; & Treffinger, D. J. (1991). Creative Learning and Problem Solving. In Developing Minds: Program for Teaching Thinking. Costa Arthur: Alexandrial: Supervision and Curriculum Development.

Torrance, E.P. (1986). Teaching Creative and the Gifted Learners. New York: Macmillan Publishing Company.

Oliva, Peter F. (2013). Developing the curriculum. 8thed. Boston: Allyn and Bacon.

Osborn, A. F. (1963). Applied Imagination.(3rd ed). New York: Scribner's.

Parnes, S. J., R. B.Noller, and A. Biondi. (1976). Guide to Creative Action. New York, CharlesScribner's Sons. Cited in Davis, G. A. 1983. Creativity is Forever. UnitedStateof America: Kendal/Hunt Publishing Company.

Posner, George J. (2004). Analyzing thecurriculum. Boston: McGraww Hill.

Wiles, Jon W. (2009). Leading curriculum development. 8thed. California: Corwin Press.

Wiles, Jon W. and Bondi, C. Joseph. (2011). Curriculum development a guide to practice. 8thed. Boston :Pearson. Unicef for every child Thailand https://www.unicef.org/thailand/ Retrieved on 30 June 2018).