

## **SYNTHESIS OF THE MODLE FOR DEVELOPMENT MODEL OF RESEARCH PRODUCTIVITY IN VOCATIONAL EDUCATION INSTITUTES BY APPLYING THE EMPOWERMENT EVALUATION**

ANOTAYA RUENGSR, VANDEE SANGPRATEEPTOONG, SOMKID PRAMJUI,  
KANDA POONLAPTAWEEE,  
Sukhothai Thammathirat Open University  
Email: Anotaya@gmail.com

### **Abstract**

This study aims to synthesis an effective model for the development of research productivity in vocational education institutes using empower evaluation. The cohorts data were collected from 19 heads of the department, 38 teachers and 155 volunteers from 19 institutes and 155 academies and extrapolate using empower evaluation. The results from the prototype model suggested that a good research productive model required 5 essential components namely 1) Principle of the model, 2) Mechanism of the model, 3) Objective of the model, 4) Operating procedure of the model and 5) Evaluation of the model. Suggestion 1) Suggestion on applying research results This draft of a model for the development of research productivity in vocational education institutes can be used to improve the research competency of teachers or instructors that consequently increase numbers of high quality research. 2) Suggestion on further study The quality of the model shall be reviewed by the experts and applied to develop research productivity in vocational education institutes to evaluate the quality of the model.

**Keywords:** Model synthesis, Development of research productivity, Empower evaluation

### **Introduction**

Research is an essential tool for discovery and development of the novel knowledge, which require for development of the country. According to national policy and strategic plan for the improvement of government operations, the state aim to promote lifelong education to fully develop the quality of life of Thai people in all aspects (Wilai Tangjit Somkid, 2011, page 36). These policy and strategic plans have been driving educational reform for 2 decades (2009-2018) which consistent with national education act, 1999 (last update: edited 3, 2010). The educational act is based on the principle that all learners are capable of learning and self-development, e.g., in chapter 4: national educational guidelines, education shall give emphases to personal skill and interest, provide training in thinking process, learning from real experience and application of knowledge for obviating and solving problem, creating good moral and value as well as support instructors to create the suitable ambiance, environment, instructional media and facilities for learners to learn and be all-round persons, able to benefit from research as part of learning process. In section 30, educational institutes shall develop effective learning processes as well as shall also encourage instructors to carry out research for developing suitable learning for learner at different level of education. In section 67, the state shall promote research and development, production and refinement of technologies for education as well as following up, checking and evaluating their use to ensure cost-effective and appropriate application to the learning processes of the Thai people. Moreover, in section 69, the state shall establish a central unit responsible for proposing policies, plans, promotion and co-ordination of research, development and utilization of technologies for education, including matters relating to evaluation of the quality and efficiency of the production and application of the technologies for education.

Research is a basic requirement for the educational careers. Instructors shall know basis of research including literature review and integration of research to develop teaching-learning processes as well as using the research for self-improvement and self-learning (Methee Pilanathananon, 2007, Page 2). According to national education act, 1999 (last update: edited 3, 2010), instructors shall have duties to perform the research and use outcome from their research to develop teaching-learning processes that finally produce knowledgeable, experienced, thinkable, handling and good learner for the society.

According to the mentioned mission, instructors are expected to be able to conduct the research and use research processes to improve the knowledge and develop teaching-learning processes that consistent with their responsibility in educational reform and assurance of teachers following professional teacher development framework (Office of the educational council, Ministry of education, 2010, page 13-14). Teachers shall be teachable using research as the basis of teaching-learning processes for the development of systemic knowledge of learner (Suthasinee Boonyapitak, 2002, page 67).

The teaching-learning process using research consequently improves the teaching system and also improves systemic learning, working and problem-solving of the learner. Therefore, teachers shall express their ability to research in order to develop systemic thinking and also have the feeling that research can be used to develop teaching processes. This skill calls research competency that is created from the research experience. This is a significant attribute of teachers that directly affects the development of teaching-learning processes. According to the literature review, research competency classifies into 3 aspects, namely 1) knowledge and understanding of research methodology, research technique, and research reading and analysis, 2) research attitude including opinion and feeling of teachers upon research, and 3) research practicing, critical thinking, synthesizing, evaluating, investigating, learning, and diagnosing problem and demand skills for research conduction. This research has been accepted to be important and has systemic synthesis and analysis that correlates with the national education act. The educational operation and reform among the dynamic knowledge in this era require well investigation of reliable and reasonable pieces of evidence, and systemic operation that is necessary for professional teacher development (Ajayari Watcharaviwat, 2001, page 93; Ararat J., 2005, page 126; Suthasinee Boonyapitak, 2002, page 65; and Prida Benkhar, 2005, page 87).

However, the significant problems in educational research of teachers in vocational education institutes are a too narrow scope of research and inappropriate research plan due to lack of knowledge and experience to conduct the research that consequently extenuates research production. Other problems are lack of knowledge about research methodology, insufficient literature review skills, lack of mentors, lack of research motivation, and overload of works. Moreover, previous studies revealed that vocational teachers still need to develop their research skill and knowledge as well as request expert research mentors (Kanda Phoonlaphawee and Wan Dee Saeng Prateep Thong, 2003, page 20-21; Chaowarat Temiyakun, 2009, page 144; Kwan Dao Jamphla, 2012, page 76; Somchai Pringphatphongphong, Niwat Amatayakun, and Panarathaporn Jongprasertying, 2014, page 8- 9; O-From Rungruengvanichkun, 2013, page 154; and Suttipong Boonphadung and Pinthipa Suebsang, 2013, page 3). Thus the development of research competency in vocational teachers is necessary in order to improve the quality and quantity of research to meet the criteria. Therefore, we believe that joining and co-organizing the experience building activities according to teachers request or interest together with sporadic motivation from mentors can build research skill of teachers in which finally produce good quality research. To design research competency plans, it needs to organize the systemic competency development that correlates with teacher's experiences. Knowledge for competency development is composed of understanding of research, research attitude, and research operating skill.

In this study, we aim to study the model for the development of research productivity in vocational education institutes by applying the empower evaluation and promote the professional development of teachers that can be determined by feedback from research problems and request of self-development.

Initially, teachers shall participate in creating educational mission, planning developmental strategy and also suppose to have assessment tools. Moreover, teachers shall have self-plan and -assessment under supervision of mentors that mentally recruit teachers as a part of educational plan, correlated with the Fetterman's concept, which aim to improve successfulness of work and increase the opportunity to achieve self-achievement (Fetterman, 2007). Therefore, participation on self-assessment can use to be a tool for professional development of teachers.

According to definition of assessment, assessment is a process to collect the information by comparing value with standard. Perfect assessment in both measurement and criteria consequently produce reliable assessment outcome (Phakphibun, 2008, page. 72 - 73 and Somkid Phookchui, 1999). Thus assessment of learning can be achieve using concept of teacher development following empower evaluation. According to concept of empower evaluation, assessor uses assessment and empower knowledge to be basis of development, which is a sustainable development for organization by act as a mentor or coach (Krittiya Wongkom, 2004, page 184 - 185). The advantages of empower evaluation is the outcome of assessment including learning of organization and assessment of development. Suwimon Wongwanich said that "assessment is not only a report, but the outcome shall be a long term responsibility of all employees" (Suwimol Wongvanich, 2005). Moreover, Nawarat Phlai Noi and Theeradech Chaimarun said that "Fetterman mentioned the core concept of empower evaluation, which is the theoretical basis of values and ideas that is a guideline to assess processes for self-development to gain knowledge" (Nawarat Phlai Noi and Theeradech Chaimarun, 2008, page 19). Indeed, everyone shall be involved in creation of assessment and development in order to build appropriate competency and potentiality for organization.

Taken together, development of research is very importance for educational development; however no successful methods are available. Because teachers lack the confidence in doing research The researcher thought that building confidence for teachers was good. Therefore, it is necessary to empower teachers to evaluate their work periodically, with mentors to look after throughout the research. Therefore, we designed the development method using empower evaluation that based on research synthesis and research problems analysis. We synthesized model to develop research productivity in vocational education institutes in order to encouraging teachers to conduct high quality research that composed of principle of mechanisms of the model, purposes of the model, educational methodologies and guidelines for model evaluation (Teera Runcharoen, 2007, page 90; Saman Asavabhun, 2007, page 10), as a result in, good quality research from teachers in vocational education institutes.

### **Research of Objective**

To synthesis model for the development of research productivity in vocational education institutes using empower evaluation

### **Research Methodology**

This study synthesized a model for the development of research productivity in vocational education institutes by applying to empower evaluation following

1) Literature review available documents that involved with model development, a component of assessment model, rational and methodologies of empowering evaluation following Fetterman's concept (Fetterman, 2007) as well as research competency of teachers/instructors. Competency is an ability that can be monitored by working activities. Competency

also indicates knowledge, skill, and attitude on work that are major components of competency. Competency is also an indicator of the successfulness of work. The component of competency correlates to each other's that consequently express measurable behaviors. Therefore, research competency is the ability to research standard criteria, in which skill and knowledge are essential components that correlate with competency. Major competencies for research are the competency of research methodologies, research operating skill, applying research results, and competency of attitude, in which competency of attitude means good idea and feeling about operating research. Empower evaluation is the concept of the assessment process for personal or group development using confidence building technique for self-development, work-development and personal evaluation. By the external appraisers are play a role as advisor or facilitator, depend on the potential and requested level of the employee that based on teamwork principle and self-empowerment. There are three steps including mission setting, data collection and future plan. Moreover, empower evaluation also based on ten principles including elevated development, community ownership, coordination of all stakeholder, participating democracy, society fairness, community knowledge, strategies from empirical databases, capacity to build educational organization, and examinable responsibility.

According to synthesis of model development, the model shows correlation with systemic and well organized variables. The model development process begins with the study of basic knowledge in pattern creation or pattern development that reveals the relationship between each variable for clear and cover explanation of structure of reasonable relationship. There are two steps to create or develop the model: 1) Creating or developing of the model using analysis or synthesis of available documents or researches and 2) Study the current operational problems of the agency in order to create target of model.

In brief, the model composes of 1) Principle of the model: is determination of appropriate principle for best operation to achieve the objective of the model, 2) Mechanism of the model: is determination of personal responsibility and collaboration, 3) Objective of the model: is defined on the basis of related theories, 4) Operating procedure of the model: is 3 educational systems include research network, development of research competency, and research counseling, and 5) Evaluation of the model: is evaluation of knowledge and understanding of research, research attitude, research skill, and quantity and quality of research.

2) Study of condition and problem of research in vocational education institutes using results from Office for national education standards and quality assessment (Public organization) and teacher questionnaire following

2.1) Report from Office for national education standards and quality assessment (Public organization) revealed that approximately 85% of vocational education institutes (total 102 institutes) are uncertified because lack of research development and innovation.

2.2) Questionnaire to collect the data from 19 head of research department from 19 institutes, 155 students from 155 academies (1 person per academy) and 38 representative teachers from 19 institutes (2 persons per institute) in which total 193 participants. Data were collected in the workshop of professional development of teachers from vocational education institutes at Felix River Kwai resort, Kanchanaburi on August 17- 21, 2017 that organized by supervisory division, office of the vocational education commission. Open ended questions about condition and problem of research operation as well as guideline for research development were used to collect the data from teachers. The results showed that only few numbers of teachers conduct their research, which accounting for 42.4% of teachers and the numbers of research topic are lower than 20 topics per institute. Moreover, there are 6 problems for research in vocational education institute include 1) teachers do not recognized the benefit of research (91.57%), 2) lack of knowledge and understanding on good quality research (85.26%), 3) afraid to conduct the research (63.15%), 4) lack of supervision and follow-up from experts (54.73%), 5) lack of skill in literature review (53.65%), and 6) time limitation

because of workload (30.57%). Moreover, teachers also recommend some guideline to promote research development including 1) shall have conference or meeting to create knowledge and understanding of research, 2) creating research network, and 3) creating research consult centers.

2.3) Synthesis of the information from documents and researches that involved with model development, the component of the model, empowers evaluation, principle and methodologies of empowering evaluation, research competency of teachers, and analysis of current research problems of vocational education institutes to create prototype model of research productivity in vocational education institutes by applying to empower evaluation, figure 1.

## Research Results

1. Results of documents and research related to the development of models. Elements of style Empowerment assessment Found that the composition of the module consists of 5 elements (1) the principle of the form (2) the mechanism of the form (3) the purpose of module (4) Methods of providing knowledge and (5) Guidelines for evaluating patterns.

For empowerment evaluation There are steps and principles of assessment that are three steps: 1) Determining the mission. Which is the first step of the assessment by jointly determining the mission to achieve the desired result. 2) Taking stock. Checking the status by carrying out 2 sub-steps, namely the determination of important activities to develop and select the most important activities to develop. 3) Planning for the future is a step by which all the participants jointly set goals and strategies to achieve the goal. There are 3 sub-steps: (1) Setting Goals, Done by brainstorming From those involved. (2) Developing operational strategies, By consensus to achieve the goal. (3) To provide evidence in the operation. Is a step that every participant is motivated to find evidence.

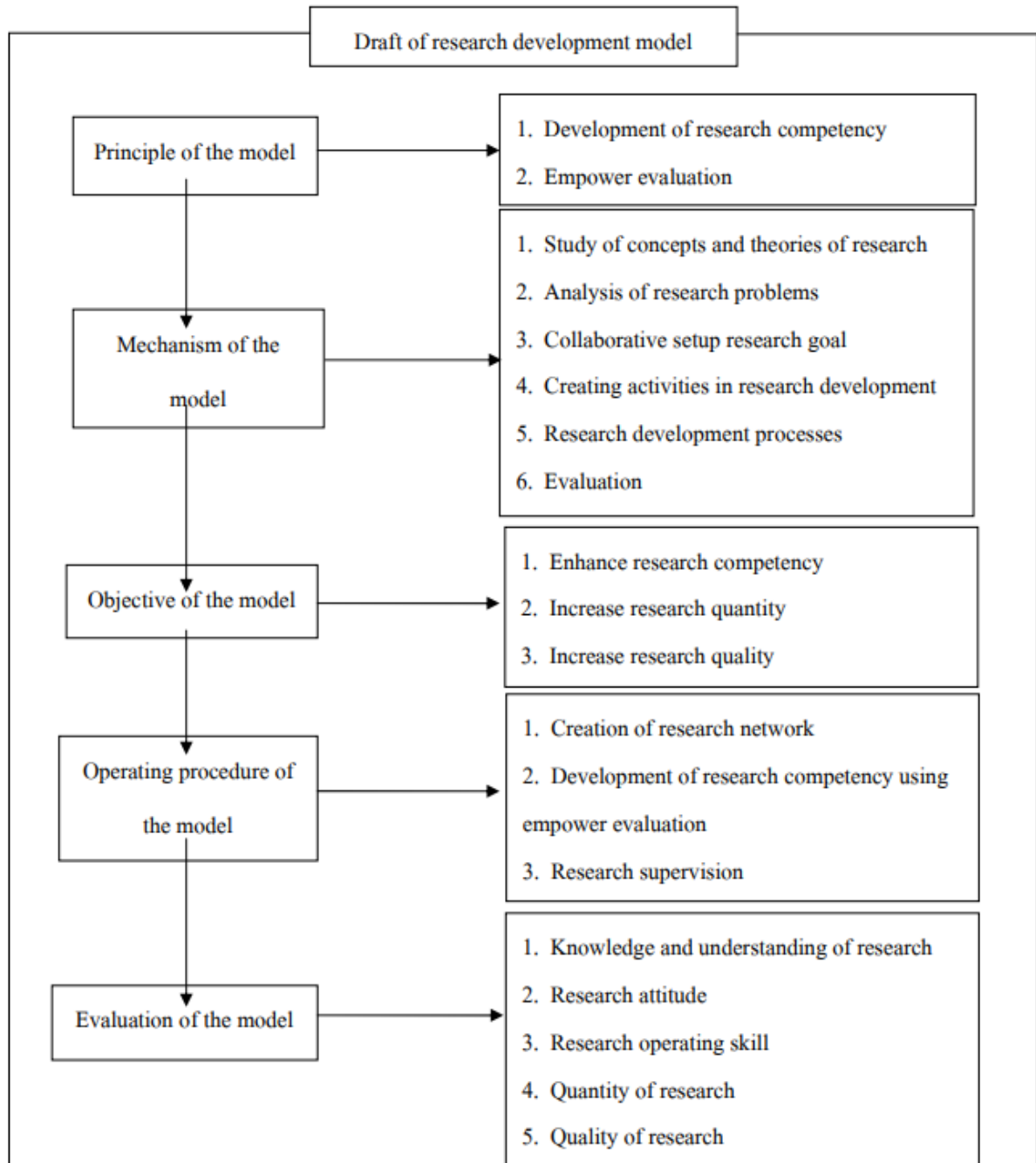
2. The results of the synthesis of conditions and problems in the research of Vocational institutions.

2.1 Assessment report of the Bureau of standard and Education Quality Assessment found that 85 % of the number of non-accredited schools, mainly from the work of research.

2.2 From the inquiry, the teacher who is the head of research and the teacher representative in the vocational institute, 193 people found that the teacher did little research. There are less than 20 research volumes per school. The problem of teacher research is 1) Teachers who do not see the benefits from research. 2) Lack of knowledge and understanding about quality research. 3) Fear of research. 4) Lack of supervision and follow-up from experts. 5) Lack of research skills in literature And 6) not having enough time due to the burdens of teaching and work. And from proposals to encourage teachers to do more research, namely 1) organizing meetings, creating knowledge and understanding about research. 2) providing research networks and 3) providing counseling centers research.

The results of the synthesis, therefore, outline the research development module of the vocational institute by applying the empowerment evaluation as shown in the diagram





**Figure 1** Draft of the model for the development of research production of vocational education institutes by applying to empower evaluation

## Discussion of Research Results

According to a literature review of documents and researches that involved with the model, development found that the components of the model are usually composed of principle, mechanism, objective, operating procedure and evaluation that consistent with Thirarucharoen's concept (2007) and Saman Asavaphum's concept. Therefore, synthetic results of model for development o research productivity in vocational education institutes by applying empower evaluation showed that model composed of 5 components include 1) Principle of the model consist of development of research competency and empower evaluation, 2) Mechanism of the model consist of study of concepts and theories of research, analysis of research problems, collaborative setup research goal, creating activities in research development, research development processes, and evaluation, 3) Objective of the model consist of enhance research competency, increase research quantity, and increase research quality, 4) Operating procedure of the model consist of creation of research network, development of research competency using empower evaluation, and research supervision, and 5) Evaluation of model consist of knowledge and understanding of research, research attitude, research operating skill, quantity of research, and quality of research.

## Suggestion

### 1) Suggestion on applying research results

This draft of model for development of research productivity in vocational education institutes can be used to improve research competency of teachers or instructors that consequently increase numbers of high quality research.

### 2) Suggestion on further study

The quality of the model shall be reviewed by the experts and applied to develop research productivity in vocational education institutes in order to evaluated the quality of the model.

## Reference

- Asavaphum S.(2007); Path to quality of education standards, 8th ed.; Ubonkij Offset Printing limited, Ubon Ratchathani.
- Artarat J. (2005); Development of empower work model for improvement of kindergarten teachers to become researchers; Thesis, Ed.D. (Early Childhood Education); Srinakharinwirot University, Bangkok.
- Boonphong S.and Suebsaeng P. (2013); Development of research competency in teachers following the concept of Waikotki by using the principle of partnership (Phase 1); Education Program in Curriculum and Instruction, Faculty of Education, Suan Sunandha Rajabhat University, Bangkok.
- Boonyapitak S.(2002); Curriculum development of teacher-researchers in class for teaching professional student; Doctor of Education thesis, Department of Technical Pedagogic Research and Development, Graduate School, Srinakharinwirot University, Bangkok.
- Benkarat P. (2005); Encouragement of self-efficacy of teachers during research development process in classroom; Doctor of Philosophy thesis, Applied Behavioral Science, Srinakharinwirot University, Bangkok.
- Fetterman, D.M. (2007); Empowerment evaluation Principles in Practice edited by David M. Fetterman and Abraham Wandersman oreword by Ricardo A. Millett, President; Woods Fund of Chicaco.
- Jampa K. (2012); Strategies for development of research competencies of teacher from Rajabhat University teachers in the lower northern group, Thailand; Doctor of

- Philosophy thesis, Department of Strategic Management and Development, Rajabhat Kamphaeng Phet University, Kamphaeng Phet.
- Laphawee K. and Pratheepthong W. (2003); Research in the classroom of teachers from learning-reform school project for quality improvement of students: representative selected experiences; Graphic sweet pepper, Bangkok.
- Pilanathananon M. (2007); Personnel administration in the education; Faculty of Education, Silpakorn University: Sanam Chandra Palace Campus, Nakhon Pathom. 10) Vilai Tangjidsomkid (2011); Being a teacher; Bangkok: Odean Store.
- Phai-Noi N. and Theeradej Phai-Noi (2006); Learning development through empower evaluation process; Bangkok: BA Living.
- Temiyakun C. (2009); The model for research competency development of teachers under the office vocational education commission; Doctor of Philosophy thesis, Department of Technical Pedagogic Research and Development, King Mongkut's University of Technology North Bangkok, Bangkok.
- Office of the Vocational Education Commission (2008); Vocational Education Act (2008); Teachers Council of Thailand publisher, Lat Phrao, Bangkok.
- Office of the Vocational Education Commission (2015); Vocational standards for degree level; Teachers Council of Thailand publisher, Lat Phrao, Bangkok
- Office for National Education Standards and Quality Assessment (Public Organization) (2016); Insurance system: Educational quality: Type D publisher, Bangkok. 21) Office of the Education Council (2010); Policy proposals for teacher and educational personnel development; Graphic sweet pepper, Bangkok.
- Phromshui S. (1999); Project evaluation techniques; Sukhothai Thammathirat University: Open Press, NonThaburi.
- Pringphatphongphong, S. Amatayakun N. and Jongprasert P. (2014); Development of research potential in the classroom of teachers from Santirat Vocational University, under patronage.
- Phibun S.(2008); Research and development strategies for development of organizations, 4th ed.; Chatuporn Design, Nonthaburi.
- Rucharoen T. (2007); Professional organizing and managing in educational reform era; Bangkok: LT Press Company Limited.
- Rungruangwanichkun O. (2013); Development of a model for enhancing research competency in teacher by integrating the learning process for government teacher under the Office of Secondary Educational Service Area 2; Thesis, Ed.D. (Adult Education); Graduate School, Srinakharinwirot University, Bangkok.
- Wongvanich S. (2005); Research on needs assessment; Publisher of Chulalongkorn University, Bangkok.
- Wongkom K. (2004); Teacher development model for learning assessment using empower evaluation in accordance with the National Education Act, 1999; Doctor of Philosophy thesis, Department of Educational Measurement and Evaluation, Chulalongkorn University, Bangkok.
- Watcharaviwat A. (2001); Curriculum development to enhance research competencies for Nursing students; Doctor of Philosophy thesis, Department of Technical Pedagogic Research and Development, Graduate School, Srinakharinwirot University: Prasanmit, Bangkok.