

Learning outcome of the Thai qualifications framework for higher education (2009) by PBL

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Abstract

A classroom action research, the objective of which is to study five aspects of learning outcomes, as follows: 1) Ethics and Morals 2) Knowledge 3) Cognitive Skills 4) Interpersonal Skills and Responsibility 5) Numerical, Communication and Information Technology Skills and to study the attitude towards Problem-Based Learning method (PBL). Purposive sampling selected a sample of 53 students from the first-year of dental nurses studying the Contemporary World Affairs subject. Data were collected using questionnaires (the evaluating tools on TQF: HEd) and were analysed by finding percentages and means. 1. Both lecturers and students found that the students were learning at an effective rate which was more than standard scores (60%) in five aspects: 1. Ethics and Morals (96.98%), 2. Knowledge (96.06%), 3. Cognitive Skills (94.33%), 4. Interpersonal Skills and Responsibility (96.73%) and 5. Numerical, Communication and Information Technology Skills (94.33%). 2. It was found that 100% of students have a positive attitude towards PBL.

Keywords: Learning outcomes, TQF, PBL.

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1. Introduction

Thai Qualifications Framework for Higher Education, TQF: HEd which focuses on students' attainment in five aspects of learning outcomes as follows: 1. Ethics and Morals, 2. Knowledge, 3. Cognitive Skills, 4. Interpersonal Skills and Responsibility and 5. Numerical, Communication and Information Technology Skills. ([http:// graduateesschool.bu.ac.th/tqf/images/pdf/tqfth.pdf](http://graduateesschool.bu.ac.th/tqf/images/pdf/tqfth.pdf)). Because The Sirindhron College of Public Health which belongs to Praboromarajchanok Insitute for Health Workforce Development, the Ministry of Health Thailand is the Higher Education Institutions who has the duty to teach Bachelor degree of Public Health under the standard of Thai Qualifications Framework for Higher Education, TQF: HEd, using educational methods, such as the lecture and community base learning (The academic division, the Sirindhron College of Public Health, 2014). Therefore, the researchers aimed to find out about the Learning Outcome in five aspects (1. Ethics and Morals, 2. Knowledge, 3. Cognitive Skills, 4. Interpersonal Skills and Responsibility and 5. Numerical, Communication and Information Technology Skills) of the students when the Problem-Based Learning method (PBL) is used in the teaching of the First-Year of Dental Nurses, Series 5 in the Contemporary World Affairs subject, General Education Course. Also, the students' attitudes' towards this method could be used to improve teaching in next semester.

2. Objective of the study

1. To study Learning Outcomes of the Thai Qualifications Framework for Higher Education: TQF: HEd 2009 by Problem-Based Learning: PBL in the Contemporary World Affairs subject of the First-Year of Dental Nurses, Series 5 in five aspects; 1. Ethics and Morals, 2. Knowledge, 3. Cognitive Skills, 4. Interpersonal Skills and Responsibility and 5. Numerical, Communication and Information Technology Skills.
2. To study of the attitudes of the students towards learning PBL method

3. Literature review

3.1. Bachelor of public health program in Dental Public Health, B.P.H. (Dental Public Health)

This is 138 credits class-based Bachelor degree that classroom teachings and a corporation programs between the Sirindhron College of Public Health and Faculty of Public Health, Burapa University. The objectives of this degree were as follows:

1. To improve the general and oral hygiene by Health Promotion using sufficiency economy theory.
2. To promote oral hygiene of Thai population under the regulation of the Ministry of Health and dentists.
3. To cure in the oral disease under the regulation of the Ministry of Health and dentists.
4. To Acquire knowledge and skills in research method and build on the skills.
5. To instil career moral and ethic and respect patients' rights.
6. To acquire skill to use technology and communication.
7. Able to work in a team, having team leader and human relation.

3.2. Description of the contemporary world affairs subject (4021 103) three credits

The study of Contemporary situation in world regions, including current wisdoms and important affairs. The roles and methods of powerful countries and international organisations for international and intra-national problem solving.

3.3. Learning outcome of the Thai Qualifications Framework for Higher Education, TQF: HEd

TQF is the Thai Qualifications Framework for Higher Education, TQF: HEd. This is the Thai Qualifications Framework for Higher Education, which sets the standard for learning in the higher degree's level. This framework presents an opportunity to evaluate learners' their knowledge and enhance the mechanism that will ensure the effective implementation of the National Qualifications Framework in order for higher education institutions to produce graduates who can achieve the quality learning (Domains of Learning). Thus, the colleges that belongs to the Praboromarajchanok Institute for Health Work force Development, the Ministry of Health, Thailand (2014: 13–23) are provided with a blueprint design to measurement and evaluation of learning outcomes by undergraduate qualification of the Bachelor degree of Public Health (Dental Nurse) as six aspects as follows:

1. Ethics and Morals
2. Knowledge
3. Cognitive Skills
4. Interpersonal Skills and Responsibility
5. Numerical, Communication and Information Technology Skills
6. Professional practice skill.

3.4. Problem-based learning: PBL

It is the teaching method using Problems or Situations for students to find their own methods to solve problems. The students divided into small groups with the rotating positions of chairman and secretary, working together according to the mechanism that has been postulated and plan to test that hypothesis, including planning for additional knowledge to present to the group, the instructor is responsible for preparing a comprehensive problem solving, learning objectives. Prepare Learning Resources Help to support the learning process of education by seven steps as follows:

- Step 1. Clarify unclear term of the scenario
- Step 2. Define the problem
- Step 3. Brainstorming to define explanations for phenomenon observes in the scenario
- Step 4. Arrange possible explanations and working hypothesis
- Step 5. Formulates the learning objectives
- Step 6. Independent study
- Step 7. Report back, synthesised explanations and apply newly acquire knowledge

3.5. Related research

Yodsavee (2011: abstract). To improve learning by Problem-Based Learning: PBL. After the Evaluation Design Subject, this study found that the students improved their cognitive understanding of the content of the subject's whose meaning varies at many levels. The positive result of this teaching method (PBL) helped the students to recall of the contents of the study, study more comprehensively as well as see an overview of the subject matter both before and after the study. However, if there is no attendance or an enrolment delay, this can affect the understanding of the study.

Pomprakay & Sivapron (2013: abstract). Case Study Research on Team-Base Learning and Problem-Based Learning to Enhance Learning Outcome Standard in Accordance with TQF 2009 studies learning by PBL which was divided to three parts as 1. group activities in five steps, 2. individual activities in one

step and 3. group activities in three steps . The results of interview have found that the students were satisfied with teaching process and activities by TBL and PBL.

4. Conceptual framework

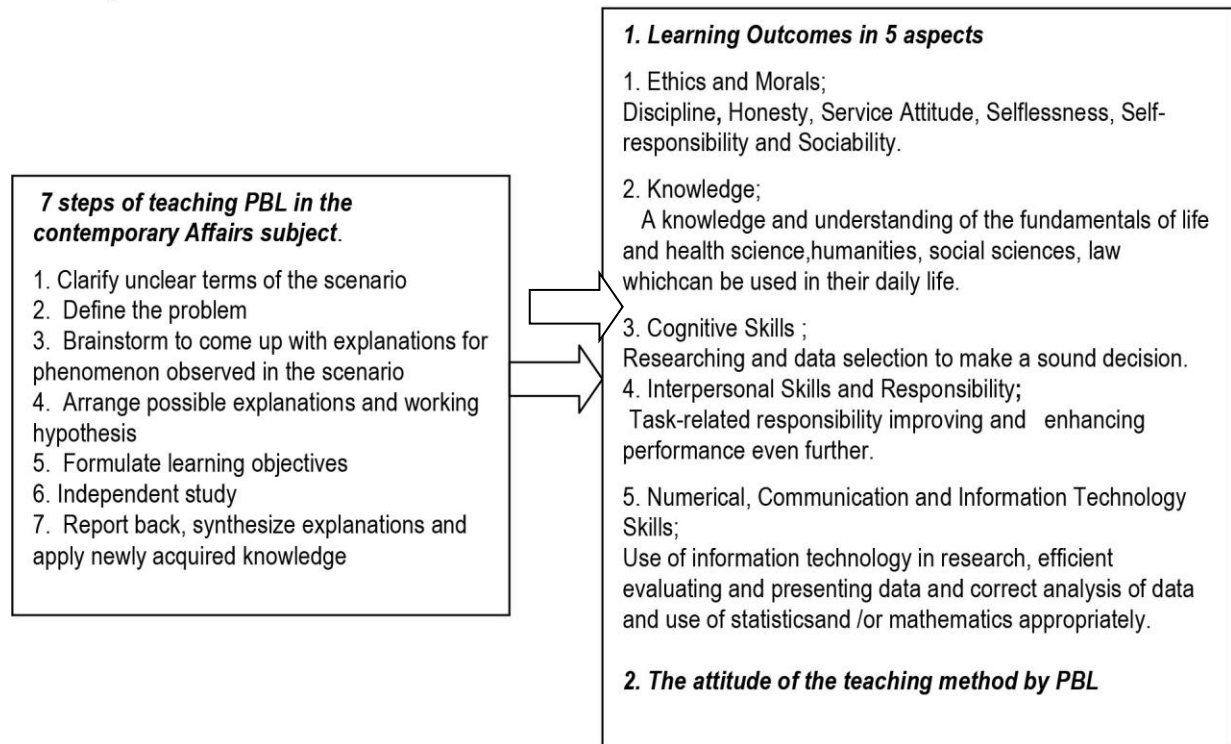


Figure 1.

5. Research model

The Classroom Action Research which has the methodology as below:

5.1. Population and sample size

Population is the Bachelor of Public Health Program in Dental Public Health, the Sirindhorn College of Public Health. Sample size is 35 First-Year of the Bachelor of Public Health Program in Dental Public Health students, Series 5 in the Contemporary World Affairs subject in the first semester of the academic year 2014, using Purposive Sampling method for Sample Size.

5.2. Research methodology in three steps

5.2.1. First step study design

1. Study the objective of the TQF standardises as follow the curriculum mapping.
2. Design the study format of the Contemporary World Affairs Subject by steps of PBL.

5.2.2. Second step

1. Study learning activities of students in research and data collection.
2. Set the individual report by the students.
3. Test knowledge of the students.
4. Activities include 7 steps of PBL as follows:

Step 1. Clarifying Unfamiliar Terms

Step 2. Problem Definition

Step 3. Brainstorm

Step 4. Analyse the problem

Step 5. Formulate Learning Issues

Step 6. Self-directed Learning

Step 7. Report

5.2.3. 5.2.3. Third step

1. Evaluation Activities

5.3. Tools of research

Using research tool according to the manual of The Measurement and Evaluation of Learning Outcome of B.P.H. (Dental Public Health) developed by the colleges belonging to the Praboromarajchanok Insitute for Health Workforce Development, the Ministry of Health, Thailand (2014) and the results of research of Vasna Kimtud (2013). Afterwards, 15 students of First-Year of the B.P.H. (Public Health) were pre-tested for reliability. After, the data were analysed by percentage, compared to the 4 level reviews standardise as; 4 = Very good, 3 = good, 2 = Fair, 1 = should improve. Percentage amount of after Pass rate of 60 per cent was full.

6. Results

The results are as follows:

6.1. In general characteristics of the study sample size

In general, characteristics of the study sample size of 53 students in the B.P.H. (Dental Public Health) degree First-Year, Series 5, who enrolled studying the Contemporary World Affairs module during semester 1/2014, most of whom were female (84.90%), age 18 years (66.03%) and graduated high school with a GPA greater than 3.50 (73.58%).

6.2. Learning outcomes, five aspects

6.2.1. Ethics and morals

On subheading: 1.2. Provides mental discipline, honesty; self-sacrifice and social responsibility found that teachers agreed that students learn most effectively by complying with the rules and

regulations of the college and society (98.33%). The opinions of the students is that they learn more effectively and see improvements in some areas of behaviours such as friends in class, on time for work assignments and make sacrifices in group activities (98.99%).

6.2.2. Knowledge

On subheading: 2.1. Have knowledge and understanding of the essence of science as well as the basis of life and science-based comprehensive health and science, humanities, social sciences, law and democracy; it was found that the teachers agreed that the students learn most effectively in the topic where the essence of science and of life-related subjects is correctly taught (98.12%). The opinions of the students are that they learn more effectively on the topic with emphasis on Ergonomics. Also, scientific basis of health-related subjects taught by PBL can bring knowledge which can be used in everyday life. The Figure 1 depicts various social organisations and international cooperation is fundamental to the development of knowledge in their further work and understands of the basics of life (94.98%).

6.2.3. Cognitive skills

On subheading: 3.1. Searches for information and use the information to make a decision can be linked together in a systematic and holistic; found that teachers agreed that students learn most effectively on the topic that specifies the nature of the required information correctly (98.75%). The students' opinions are that they learn more effectively on the topic whose up-to-date information meets the desired objectives. Using technology and book research, group members gather to decide delegate works. Then, presentation was presented to faculty and friends so that everyone can easily understand the content (98.88%).

6.2.4. Interpersonal skills and responsibility

On subheading: 4.2. Job responsibilities assigned found that teachers agreed that students learn more effectively on the topic which can help to improve learning (99.12%). The opinions of the students are that they can fulfil their duties correctly and everyone works more cooperatively until all work is completed and the comments divide up groups' works on different issues. Then, each student comes together to brainstorm which improves responsibility punctuality (98.66%).

6.2.5. Numerical analysis skills, communications and information technology skills

On subheading: 5.1. Use of Information Technology in the search, process and present data efficiently found that teachers agreed that students analyse the statistics more accurately and use mathematics more effectively (96.45%). The opinions of the students are that they can apply statistics more appropriately according to educational objectives, which help them learn more effectively because they can use the internet to find information on topics covered. Then, they bring together the information from friends and prepare a power point presentation or clip (95.28%).

6.2.6. To assess attitudes towards learning PBL

The attitudes of the students toward learning PBL to express opinions better (100%).

7. Discussion

Found that students achieve learning outcomes by TQF in five aspects with a score of more than 90% higher than a given threshold (60%) of the evaluation-based learning qualification standards, Undergraduate Health Science courses Dental Health Programs. The results of this study are consistent with findings of Prapasri (ibid same subject: 13–14) found that students credit PBL for better moral reasoning, enabling them think collectively, regularise punctuality and become more responsible and respect the opinions of others. This opinion is the same as that of the sample the Health Science Students (Dental) on the PBL learning. In particular, they have the courage to share their knowledge to enhance learning. Moreover, they can synthesise knowledge as well as analyse the

cause and solution, which can be used in the class. This also helps to encourage sacrifice, love and understanding and suppressing selfishness to make public the importance of unity and respecting others' opinions. This teaching method allows students to develop their intellectual skills, such as critical thinking, creativity improves encouraged students to become a better person and trained to think in a coherent step to evaluate their peers. Interpersonal skills and responsibility (Interpersonal Skills and Responsibility) in terms of skills and numerical analysis, Communications and information technology (Numerical, Communication and Information Technology Skills) that ensures communication and knowledge in technology used in the presentation. Students learn to develop their knowledge of technology to research the information for the report. Although this assessment is promising, there is also an argument that this method of teaching this way may not work well in a group of learners who are ready both knowledge and responsible as seen from the high school grades of 3.50. Moreover, the contents of this module are only appropriate because it is monitoring the situation that occurred in Thailand and in other countries. Another disadvantage of the teaching method PBL is some students are not represented in the working groups and avoid group responsibilities. These students are assessed individually according to their behaviour.

8. Conclusion

1. Both lecturers and students found that the students were learning at an effective rate which was more than standard scores (60%) in five aspects: **1. Ethics and Morals (96.98%)**, such as discipline, honesty, service attitude, selflessness, self-responsibility and sociability. **2. Knowledge (96.06%)**, such as having a knowledge and understanding of the basic fundamentals of life and health science, humanities, social sciences, law which can be used in their daily life. **3. Cognitive Skills (94.33%)**, such as researching and data selection in order to make a sound decision. **4. Interpersonal Skills and Responsibility (96.73%)**, such as task-related responsibility that improves performances. **5. Numerical, Communication and Information Technology Skills (94.33%)**, such as effective use of technological use in research, evaluation and data presentation and correct analysis of data and appropriate use of statistics and/or mathematics.
2. It was found that 100% of students have a positive attitude towards PBL.

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