

Learning Management Outcome from an Integrated Instruction between Authentic Learning and Community Academic Service for Nursing Students in The Human Society Environment and Health Subject

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0178

The Asian Conference on Education 2013

Official Conference Proceedings 2013

Abstract

This descriptive research aimed to study the learning outcomes from the use of a student centered instruction by mean of integration between authentic leaning and community academic service in a subject called Human Society Environment and Health run during the academic year 2011 with 100 first year students at Boromarajonani Nakhonratchasima Nursing College. The data on students' perceived learning outcomes and students' satisfaction were collected using a learning outcome questionnaire constructed under the guidelines in the Thai Qualifications Framework for Higher Education (TQF: HEd). The results revealed the followings:

1. The students' overall perceived learning outcomes according to the TQF: HEd was in the High level (mean = 4.37, SD = 0.55). Likewise, their perceived learning outcomes for all learning aspects were also at the High level, with the aspect on interpersonal skills and responsibility gained the highest mean score (mean = 4.57, SD = 0.51), followed by moral and ethic (mean = 4.43, SD = 0.52), numerical analytic, communicative, and technological skills (mean = 4.33, SD = 0.60), knowledge (mean = 4.32, SD = 0.51), and intellectual skills (mean = 4.20, SD = 0.59).

2. Students expressed their satisfaction towards the integrated instruction in the High level both overall (mean = 4.18, SD = 0.77) and in all sub items - the highest mean score was for the Teacher (mean = 4.33, SD = 0.80), followed by learning improvement (mean = 4.26, SD = 0.75), and course management (mean = 3.94, SD = 0.76).

The students also suggested that this type of integrating instruction could make them improve their learning skills with authentic problems that they could summarize their knowledge and give practical feedbacks to the community.

Keywords: learning, integrated, student

1. Introduction

Education takes important parts in human development and their survival in an ever changing world. Educational philosophy needs to be changed, and teaching and learning processes need to be reoriented – from passive into more active learning, focusing on the integration of logical thinking and team-working in a supportive atmosphere and environment that enhance interaction among learners and between related people, in the direction where effective learning can be created (Phukeat 2009). It has been claimed that authentic learning is a way of teaching that can change from “teacher-centered” into “learner-centered” learning (Suthirat 2011). Authentic learning focuses on exposing learners with real world situations, problems, and contexts, as well as encouraging cooperative learning and employing different ways of acquiring knowledge for solving those problems. Learning in the real life situations, therefore, motivate learners to be more autonomous learners who develop necessary skills for their lives (Kaewmanee 2009).

Authentic learning serves the National Education Act of B.E. 2542 which requires that learning process should fulfill individual needs and concern individual differences in learning preferences, focus on thinking skills, applying knowledge for preventing and solving problems, and make cooperation with people in the community in order to reach the learners’ maximum potential (Royal Thai Government gazette 1999). Moreover, the Higher Educational Standard B.E. 2549 requires that in the Teaching Mission, higher educational institutions must provide curriculum that emphasis the importance of developing learners’ quality using learner-centered approach by using authentic learning (Royal Thai Government gazette 2006).

Boromarajonani Nakhonratchasima Nursing College (2010), under the administration of Praboromarajchanok Institute for Health Workplace Development, has stated learning philosophy in the Nursing Curriculum (2009 edition) that the learning process focus on exchanging knowledge and expertise among instructors, learners, people in the family and community based on learner-center approach that support learners in knowledge acquiring through cognitive process enhanced by instructors’ supports, under the authentic learning environment provided by the community.

From the above mention on the importance of authentic learning and the college’s mission in transferring knowledge by mean of community academic service, the researchers were interested in planning the field experiment part of the Human, Environment and Health subject for the first year students to include authentic learning activities which were integrated with academic service at Buddhakasetwatnongmuang High School Amphoe Khamsakaesang Nakhonratchasima province. This school housed a number of underprivileged students and was one of the target schools for the college’s health strengthening project. Not only the results of this research were useful as for subject improvement, but also for the students’ learning outcomes according to the Thai Qualifications Framework for Higher Education (TQF:HEd), and a trustful source of health information that can be passed through to the community for a sustainable health promotion.

2. Objectives

- 1) To study students' perception on their learning outcomes through an integrated instruction between authentic learning and community academic service in the Human Society Environment and Health subject.
- 2) To study students' satisfaction on learning through an integrated instruction between authentic learning and community academic service in the Human Society Environment and Health subject.

3. Scope of the study

This study investigated students' perception on their learning achievement through an integrated instruction between authentic learning and community academic service in the Human Society Environment and Health Subject in the practical part (1 credit, 30 hours). The participants were 131 first year nursing students at Boromarajonani Nakhonratchasima Nursing College enrolling the subject in semester 2 academic year 2011(Oct. 2011-Jan. 2012).

4. Keywords

Learning Outcomes refer to the 5 areas of students' learning achievement in Nursing Students in the Human Society Environment and Health Subject according to the Thai Qualifications Framework for Higher Education : 1) ethics and morals; 2) knowledge; 3) cognitive; 4) interpersonal skills and responsibility; and 5) numerical, communication and information technology skills.

Ethics and Morals Learning Outcome: Students respect values, beliefs, and human integrity.

Knowledge Learning Outcome: Students have knowledge and understanding in the contents on the relationships between human, health, and environment.

Cognitive Learning Outcome: Students are a competent in systemic analytical thinking by applying knowledge acquired from their studies on solving health problems.

Interpersonal Skills and Responsibility Learning Outcome: Students can work in team, collaborate with skills in building relationship and creative interaction with others.

Numerical, Communication and Information Technology Skill Learning Outcome: Students are able to convert data into quality information, analytically read and transfer information to others effectively, and select and use suitable forms of technology for presenting information and communication effectively.

5. Methodology

5.1 Population and Sample

The Population consisted of 131 first year nursing students at Boromarajonani Nakhonratchasima Nursing College enrolled the Human Society Environment and Health Subject in semester 2 academic year 2011.

Study samples were 100 students randomly sampled from the population. The sample size was calculated from Taro Yamane formula $n = N / (1 + Ne^2)$, where 'n' represented sample size, 'N' the population, and 'e' the Confidence interval (at .05) (Karnasuta 1995).

5.2 Sampling method

The sampling procedures employed computerized random sampling method to choose 100 students from the population of 131.

5.3 Research Tools

Research tool was a three-part questionnaire.

Part 1: Respondent's general information

Part 2: Student's perceptions on learning outcomes after taking the subject instruction, consisting of 8 items.

Part 3: Student's satisfaction on the subject, containing 20 items.

Items in Part 2 and 3 were rating scales ranging from 1 to 5 (the least to the most satisfaction).

Scores from the questionnaire were averaged and analyzed according to the following categories:

Satisfaction Levels	Mean Scores
Low	1.00 – 2.33
Moderate	2.34 – 3.66
High	3.67 – 5.00

5.4 Research Tool Development Procedures

Research tools were constructed and tested for validity and reliability as in the following procedures.

1) Validity: The questionnaire was assessed by three experts for content validity. The researchers improved the questionnaire according to the experts' comments.

2) Reliability: The improved version of the questionnaire was distributed to 31 students who enrolled the course on Human Society Environment and Health Subject in semester 2 academic year 2011. Data from this group of students were analyzed for Cronbach's alpha coefficients. The data analysis yielded the alpha coefficient of .79 for the students' perception on their learning outcomes, and .87 on the students' satisfaction.

5.5 Instructional Procedures

The integrated instruction between authentic learning and community service followed the following 10 procedures.

1) The instructors informed students of the learning outcomes of the subject, learning activities in the authentic learning integrated with community service. The instructors explained how to understand the actual states of human being and the environment without personal judgment.

2) The instructors discussed with the students in order to choose a problem of interest for future study. The topic on 'microbiology in the environment and human health' was chosen.

3) The students formed groups of 10-12.

- 4) Students and instructors surveyed the surrounding environment at Buddhakasetwatnongmuang High School, Amphoe Khamsakaesang, Nakhonratchasima province, the study site.
- 5) Each group of students analyzed the data from their site surveys for problems found in each area in the site, and chose one area for further of microbiological study at their study area.
- 6) Groups planned and prepared field data collection tools.
- 7) Students collected data from the study site and brought back samples for laboratory analysis.
- 8) Each group made a summary of the data analysis and discussed effects of microbiology in the environment on human health along with some suggestions.
- 9) Students did the academic service by giving feedbacks of what they had found in their study and with some suggestions to the school in the forms of poster display and leaflet.
- 10) The instructors get the students to reflect their thinking for the subject, make a summary of the subject, measurement and evaluation student working.



Figure 1: Nursing students are collecting microbial from the environment in Buddhakasetwatnongmuang High School for laboratory analysis



Figure 2: Nursing students are giving academic service in order to reflect their findings and giving suggestions to the school in the forms of poster display and leaflets

5.6 Data Collection

The researchers distributed the questionnaire to the participated students and explained the instructions for completing the questionnaire.

5.7 Right Protection for the Samples

Before collecting the data from the questionnaire, the researcher informed the samples the objectives of the research and explained that their responses would not have any affect on their grades in the subject. The respondents need not to show their identification (name and student ID number) on the questionnaire. The data were analyzed as overall.

5.8 Statistical Analysis

- 1) Descriptive statistics were use for the analysis of frequency and percentage.
- 2) Data from students' learning outcomes and satisfaction were analyzed using descriptive statistics frequency, percentage, mean, and standard deviation.

6. Results and Discussion

6.1 Research Results

Part 1: Respondent's general information

Out of the 100 samples, 90 percent were female, 62 percent were 19 years old, 56 percent had good grade point average (2.51-3.00), and 40 percent had very good grade point average (3.01-3.50).

Part 2: Student's perceptions on learning outcomes after taking the subject instruction

Students' overall perceived learning outcomes through authentic learning integrated with community service in the Human Society Environment and Health Subject was at 'High' level (mean = 4.37, S.D. = 0.55). The perceived learning outcomes in all sub-categories were also at 'High' levels - The interpersonal skills and responsibility (mean = 4.57, SD = 0.51), ethics and morals (mean = 4.43, SD = 0.52), Numerical, communication and information technology skills (mean = 4.33, SD = 0.60), knowledge (mean = 4.32, SD = 0.51), and cognitive skills (mean = 4.20, SD = 0.59), respectively. Likewise, students' satisfaction of all items was at 'High' levels. The top three items that had the highest average score for satisfaction were 'ability in team working' (mean = 4.63), 'skills in making relationship and interactions between persons creatively' (mean = 4.51), and 'respect the value, the belief, and human integrity' (mean = 4.43), respectively, as in Table 1.

Table 1: Levels of students' perceived learning outcomes according to the Thai Qualifications Framework for Higher Education (n=100)

Learning Outcomes	mean	SD	Levels of Learning Outcomes
Ethics and Morals			
1. Respect the value, the belief, and human integrity	4.43	0.52	High
Total	4.43	0.52	High
Knowledge			
2. Knowledge and understanding the key concepts of the relationships between human, health, and environment	4.32	0.51	High
Total	4.32	0.51	High
Cognitive Skills			
3. Ability in systematic analytical thinking by using knowledge gained from giving advices about health problems	4.20	0.59	High
Total	4.20	0.59	High
Interpersonal skills and responsibility			
4. Ability in working in team	4.63	0.48	High
5. Skills in making relationship and interactions between persons creatively	4.51	0.54	High
Total	4.57	0.51	High
Numerical, communication and information technology skills			
6. Change data from the study into quality information	4.32	0.57	High
7. Analytically read and transfer knowledge to others effectively	4.27	0.62	High
8. Select and use suitable forms of technology for presenting information and communication effectively	4.41	0.60	High
Total	4.33	0.60	High
Overall	4.37	0.55	High

Part 3: Students' satisfaction on the authentic learning management integrated with community academic service in the Human Society Environment and Health subject

Students had the satisfaction levels on the leaning management at a 'high' level (mean = 4.18, SD = 0.77) with all sub-categories were in 'high' levels – instructor (mean = 4.33, SD = 0.80), learning development (mean = 4.26, SD = 0.75), and learning management (mean = 3.94, SD = 0.76). The results showed satisfaction levels as follows:

Learning Management – Students had satisfaction on the 5 items at 'high' level, with the highest mean score at 'The opportunity for students to involve in learning plan' (mean = 4.24), the second highest mean score at 'The suitability of study site' (mean = 4.01), and 'The suitability of learning assessment' (mean = 4.24), respectively.

Learning Development - Students had satisfaction on the 12 items at 'high' level, with the highest mean score at 'working in team with other students' and 'having skills in building relationship and interaction with others' (mean = 4.24), the second highest mean score at 'having skills in considering the real world of human beings as it is without personal judgment' (mean = 4.31), and 'having the skills in seeing the real world of environment as it is without personal judgment' (mean = 4.30), respectively.

Instructors - Students had satisfaction on the 3 items at 'high' level, with the highest mean score at 'Instructors have knowledge and competent in learning management' (mean = 4.45), the second highest mean score at 'Instructors take good care of students' (mean = 4.37), and 'Instructors devote times for student counseling' (mean = 4.17), respectively, as in Table 2.

Table 2: Students' satisfaction levels on learning management (n=100)

Items	mean	SD	Level of Satisfaction
Learning Management			
1. The opportunity for students to involve in learning plan	4.24	0.80	High
2. The suitability of study site	4.01	0.66	High
3. The suitability of the duration of the study	3.78	0.67	High
4. The suitability of learning assessment	3.84	0.79	High
5. The suitability of learning evaluation	3.81	0.89	High
Total	3.94	0.76	High
Leaning Development			
The subject has developed students in:			High
6. thinking systemically and critically	4.13	0.68	
7. collecting information and learning by themselves	4.28	0.74	High
8. applying their knowledge from other fields of study usefully	4.27	0.76	High
9. having skills in considering the real world of human beings as it is without personal judgment	4.31	0.76	High
10. having skills in seeing the real world of environment as it is without personal judgment	4.30	0.76	High
11. analyzing the relationship between human and health and environment	4.23	0.75	High
12. having skills in autonomous authentic leaning	4.27	0.78	High
13. working in team with other students	4.36	0.76	High
14. having skills in building relationship and interaction with others	4.36	0.73	High
15. converting data into quality information	4.27	0.75	High
16. transferring knowledge to other by exchanging learning in class and the community	4.22	0.76	High
17. applying information technology to producing media for presentation	4.27	0.78	High
Total	4.26	0.75	High
Instructors			
18. Instructors have knowledge and competent in learning management	4.45	0.74	High
19. Instructors devote times for student counseling	4.17	0.84	High
20. Instructors take good care of students	4.37	0.82	High
Total	4.33	0.80	High
Overall	4.08	0.77	High

Student also reflected their views and recommendation about learning management in this research study as follows:

“This type of learning management should be held again because can developed students’ skills in authentic learning on the basis of authentic problems – students can get real practice that enhance their experience (82)”.

“We can use what we have learned and summarized to reflect back to the community which enables us to have reasonable critical thinking (78)”.

“The learning project gives us more experience in academic service for the society which is the way to establish good relationship with the community. Therefore, students need to be prepared for knowledge, presenting media, and communication that suit the target group (74)”.

“We have learned that working in group will bring success when group members are united, plan the work together, and be responsible for the assigned tasks (68)”.

“This study makes us thing that learning in the classroom may get us to know and do well, but field practical work give us problems and obstacles or unpredictable conditions which are good experience for learning to solve the facing problems (68)”.

6.2 Discussion

6.2.1 The current research findings revealed that the overall students’ perceived learning outcomes from an integrated instruction between authentic learning and community academic service in the Human Society Environment and Health Subject was at ‘High’ level, with all five sub-categories had approximately similar mean scores. In the view of the researchers, this can be discussed as follows.

1) Interpersonal skills and responsibility (mean = 4.57). This may be because lesson activities were designed to have students working in group, collaboratively collecting and analyzing data, exchanging knowledge with other groups, as well as presenting and reflecting information to the community. All of these activities require good teamwork, relationship, and interaction among group members, with other groups, and students and people in the school. Therefore, this category on interpersonal skills and responsibility received the highest mean score from students.

2) Ethics and morals (mean = 4.43). This is because of that prior to the site study, instructors explained to students to see the states of human being and environment as they were without personal judgment, which was one of the topics in the subject that aimed at students respect the value, beliefs, and human integrity without bias and accept in personal differences in thoughts, beliefs, and feelings.

3) The numerical, communication and information technology skills (mean = 4.33). The high score in this category can be explained that students in each group had to make summaries, discuss the study results, exchange the findings with other groups in the class using presentation program. Students also produced other presenting media such as posters and leaflets. All these activities enhanced students’ skills in communication and computers.

4) Knowledge (mean = 4.32). Authentic learning activities in this research provided students direct experience in collecting data from the actual site that allowed students to prove with their own eyes. Additionally, students employed knowledge in the

Human Society Environment and Health subject and other skills to apply with knowledge from Microbiology and Parasitology subject for the analysis of microbes in the school environment. They use knowledge from Technology and Information subject to produce presenting media, posters, and leaflets. Moreover, they related their discussions to the relationship between microbes in the environment and human health, as well as gave suggestions to the school. As the result, learning activities from this subject provided students with long-term knowledge and understanding in the subject contents of the relationship between environment and human health.

5) Cognitive skills (mean = 4.20). Learning activities in the subject improved students' systematic analytical thinking skills through the use of knowledge from various subjects, experiment results, and information sources to provide academic service for the school by mean of giving feedbacks and recommendations that led to best practices that promote good environment and health.

The results from this study corresponded with those of Khattiyamarn (2000) who found that students had high levels of satisfaction on authentic learning in all items, Ruengsawat and Phuassawatop (2009) who discovered that using authentic learning in Communication in Nursing subject improved students' knowledge and understanding the subject contents, and that of Rakthai, Cheeprasop and Kanyook (2010) in which students expressed high satisfaction level on that doing the field practical in the Food and Health subject by giving community service developed their knowledge and communication skills.

6.2.2 As the students' satisfaction levels on the subject were high in all categories, the researchers have the following explanations.

1) Instructors (mean = 4.33). Satisfaction level of this category reflects the fact that throughout the course, instructors fully facilitated and supported students' learning, particularly, with full time counseling. Additionally, the instructors ensured students' full understanding on the subject's learning objectives and the concepts of authentic learning integrated with community academic service, as well as general background of the study site prior to their learning activities.

2) Learning development (mean = 4.26). Students satisfied their learning development because they gained experience from the field practical where real problems arose needed to be planed and solved systematically. First, students did the experiment to investigate types of microbial in the school, whether they exceeded health standard, how they affected people in the school, and how to prevent and solve those problems. Then they decided the most effective way of communicate their findings to the target group in the forms of suggestions and recommendation for the community. This process, therefore, developed students' learning as a whole.

3) Learning Management (mean = 3.94). The students participated in the process of lesson planning, which included learning assessment where not only they were assessed by the instructors, but also members of the class and themselves.

The current research findings agreed with the study of Turner, Boonprasithi and Pinyomit (2010) who claimed that mean scores for student nurses' satisfaction in

learning English 2 subject, which was integrated with a community academic service project, were at 'high' levels.

7. Recommendation

7.1 Recommendations from the research findings are as follows

1) In the orientation stage of the course, instructors should make sure that students have thoroughly understood the concepts of authentic learning integrated with community service, as well as learning activities, and assessment schemes. Students should also be motivated to make contribution their opinions and participate in the course planning. This might enhance better satisfaction for the subject.

2) Study site should not be too far, so that time and budgets will not wasted on travelling.

3) There should be feedbacks and advice giving to the study site, Buddhakasetwatnongmuang High School, according to the research findings. The college may also make some follow-up activities to ensure sustainable changes due to the feedbacks and advice, which is one way of strengthening and promote health in the school.

7.2 Recommendations for Further Studies

1) The instructors should use students' comments as information for course improvement and do further research on the Human Society Environment and Health subject.

2) There should be some integration between authentic learning in this subject with other activities according to the educational quality assessment schemes, such as with research, cultural reservation, knowledge management, and student improvement.

8. Research Applications

1) Research results are to be used for further improvement of course in order to enhance students' learning outcomes according to Thai qualifications framework for higher education.

2) The research finding can be useful guidance for the improvement of learner-centered learning model that enhance authentic autonomous learning in Human Society Environment and Health Subject.

3) Buddhakasetwatnongmuang High School, as the study site for the research, received advice on manipulating the school environment for proper hygiene, which promotes healthy living in the school.

9. Acknowledgement

The researchers would like to thank all the experts for valuable advise, all students for your participation and questionnaire responding. We give special thank to Boromarajonani Nakhonratchasima Nursing College for the research funding.

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