CONTRACT INQUIRY-AND ACTIVITY-BASED LEARNING (CIA LEARNING) IN ACTIVITY-BASED LEARNING COURSE

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ABSTRACT

Background: Activity-based learning (ABL) aims to bridge gaps between technically specific knowledge, contextually specific knowledge and sensitize learners to the discrepancy between these two when they apply their academic knowledge into practice. ABL is, therefore, an integral part of learning to nurse students due to its position as a practice-based profession. At Boromarajonani College of Nursing, Nakhon, Lampang (BCNL), ABL course is introduced to first-year students to prepare them for this method of learning in the following years which involves more complex courses. To foster the higher-order thinking skills among learners, we integrate an inquiry process into the ABL course.

Objective: The authors presented (1) a philosophical foundation and methodologies informing the design of ABL course, learning design principles, steps of integrated inquiry, activity-based learning (CIA), and (2) lessons learned and guidelines for CIA.

Results: The philosophy underpinning the CIA was Buddhist enactive transformation which emphasized learning through self-engaging in real-life practice within one's social environments. Based on this philosophical foundation, four existing learning methodologies were integrated to foster enactive transformative learning. These included: activity-based learning, inquiry-based learning, contract learning, and group-based learning. These methods provided seven principles for designing learning activities; real-life practice, self-directedness, expert consultation, effective teamwork, inquiry process, reflection, and facilitation. We then developed steps of learning and tools as well as corresponding learning outcomes. The course evaluation revealed that CIA raised awareness of learners about the importance of learning by doing, sensitized them to gaps between classroom knowledge and real-world contexts, and fostered skills in applying knowledge into practice. CIA learners achieved not only specified learning outcomes but also acquired other higher learning skills. Guidelines for designing and effectively implementing CIA included: the guiding philosophy, well-integrated learning methodologies, corresponding learning/teaching principles, effective learning steps and tools, evaluation of learning outcomes as well as learners’, teachers' and experts’ preparation in relation to the above.

Conclusion and recommendation: CIA which integrated inquiry process, learning contract and group process into ABL was effective in fostering course's specified learning outcomes and higher learning skills among first-year nursing students. The recommended guidelines should be adopted in designing future ABL course.

Keywords: Enactive transformation, Activity-based learning, Inquiry-based learning, Contract learning, Group-based learning, Nursing students
Introduction

The globalization of the world in the 21st century is rapidly changing in science and information technology which leads to economic competition, trade, industry and economic structural. Thailand has been reforming its economic structure using the Thailand 4.0 model. It is driven by "Value-Based Economy" innovation and use of technology with the core idea which is to bring about change such as 1) changing from commodity production to innovative products 2) improving the driving force of the industry to technology-driven creativity and innovation. Reforming of the country by transferring into practice, in particular, the educational management and instructional design should focus on design to develop students' performance to match with the changing country. The teaching and learning started from the learning management for the students getting ready and have the skills required by the country's reform policy. That is, the skills needed in the 21st century which include: 1) learning and innovation skills; 2) life skills and work, and 3) information literacy skills and technology media. Developing these skills in students will start with changing the perspective, perspectives from the traditional paradigm to the new paradigm. As a result of the changes in the economy, society, environment, and technology effect in the way of seeking knowledge. The result of the change makes it easy for learners to explore knowledge. Learners can search by themselves from various sources by using the modern technology available. They can access information according to their interests (Bellanca & Brendt, 2010).

Therefore, current teaching should be aware of the changes. This is a guideline to change the way of teaching and learning to fit for the learners to achieve the desired results of the 21st century (Bellanca & Brendt, 2010). It is acknowledged that this concept fosters and builds on 21st-century learning. This concept emphasizes student outcomes in both core subjects. They have prepared themselves for varieties of learning and are ready to learn in the 21st century; it may be necessary to break through the "subject" to "self-learning" where the teacher is the only learning designer and convenient (Facilitator). In the learner's course, the learner must have the ability to be self-directed. Self-directed, independent and cooperative, the teaching design must look challenging for learners and take into account the differences between individuals. The evaluation of learning is transformed from knowledge assessment into a practical understanding of the link. Students must participate in self-assessment.

Objective

This aims to clarify Contract inquiry-and activity-based learning (CIA Learning) in Activity-Based Learning Course. With this, the authors present 1) a philosophical foundation and methodologies informing the design of ABL course, learning design principles, steps of integrated inquiry, activity-based learning (CIA), and 2) lessons learned and guidelines for CIA.

Literature Review

The difficulty of higher education management

Most of the nursing classes taught in the classroom are done in lecture method discussion or demonstration, content-centered instructional management for students to acquire the content they need more than the advanced thinking skills of students. The students cannot link and integrate their knowledge in the classroom into real practice because they do not face real concrete situations. The teaching process is often defined by the instructor and lack of participation of the learner that is why nursing students have less interest and enthusiasm in self-
The inclusion of a variety of teaching methods such as video, web-based instructional media (YouTube), case study and problem-based learning will give the students the opportunity to learn from a new medium.

Nursing education has improved and changed curriculum as well as teaching styles to be able to produce quality nursing graduates and provide patient care in all dimensions. It aims to develop students to have the potential to learn by themselves because of their professional practice. Nurses need skill for thinking, analyzing and solution making of health problems based on empirical evidence. Therefore, the management of nursing education for the 21st century is essential for learners to learn from real life practices with a variety of learning perspectives such as psychological, belief and behavioral perspectives. The improvement of teaching methods should be based on principles such as "Teach Less" but learn more (Teach less, Learn more) "and focus on the results." Nursing education will be a health education program aimed at quality practice (Prasitwatana, 2014). Nowadays, the important learning management method in the 21st century is learning to change, and transformative learning theory can help adult learners to improve. Internal features on a change basis view and meaning to the world and life (Imel, 1998).

There are many ways to manage to learn and these include:

1) Transformative learning is a learning curve that has changed the original frame of reference, going to a larger, broader reference frame that can distinguish the difference, reflect and present the imagery (Mezirow, 2003). The concept of this learning approach is consistent with the self-created knowledge “Constructionism” in this study; students were able to use their ideas to solve problems, analyze and synthesize knowledge at all levels to create their learning (Imel, 1998). This is suitable for studying in the 21st century.

2) Learning by using base activities "Activity-based Learning" is an out-of-school approach that is not just about learning by listening, lecture-based learning but teachers will set goals as "results" that students should receive when they finish teaching. Then design “Learning Activities" to enable learners to lead their way. "Results" set such differences is a study that aims to educate people by learning how to listen. Result-oriented learning is based on student-centered learning the process of learning is by the instructor who may use "activity" or other ways to bring learners to "outcomes."(Phakdejit, 2557).

3) Group-Based Learning is a work where two or more people work together with a common goal and everyone in the group plays a role in helping, coordinating communication and deciding together. The process of group work is essential in the learning process through the activity. The participants in the group activities interacted in a variety of ways. They can think, debate, and have moral reasoning, self-responsibility, communication, and coordination and decide together for the accomplishment of the goal for the benefit of the group (Avola et al., 2010). Also, a study of Maneewan (2010) in Boromarajonani College Lampang, Thailand on the development of a team of nursing on students studying dynamics and group work supports this learning which states that the development of the team during the learning together has a positive effect on change.

Development of Activity-Based Learning (BCNLP)

Learning through activity is a compulsory subject in the general education category for students at Boromarajonani College of Nursing, Nakhon, Lampang. The 1st year students of the first semester are exposed to student quality developing skills enhancement and life experience. Both were held inside and outside the college to help build consciousness, awareness of human values personality, build teamwork, and ethics for students to use as role models in future lives, public knowledge, and social responsibility. Learners learn through activities, so learning
outcomes are defined based on the desired indicators at the five levels: 1) moral ethics, 2) knowledge, 3) intellectual skills, 4) interpersonal relationships and responsibilities, 5) numerical analysis skills, and 6) communication and the use of information technology.

Results and discussion

Contract inquiry-and activity-based learning (CIA Learning) in Activity-Based Learning Course was done through the three phases:

Phase 1: (2012-2014) Activity Based Learning

This is learning management that aims to produce results using the activity to develop by the learners to achieve the learning objectives or goals. This emphasizes the role and involvement of learners. The instructor acts as a "facilitator." The process of learning for the learners is to think and "learn" by themselves, giving the learner the opportunity to conclude self-study lessons for students to exchange each other and the evaluation of "results" to develop self-development. Teachers divided the students into 8-10 groups to plan 20 projects, but this phase was not successful.

Phase 2: (2013-2015) Introducing Contract Learning into Activity Based Learning

The instructor designs are learning by introducing a learning contract to the agreement between the instructor and the learner. The learner can plan the self-learning process at all stages. The deal is a way to facilitate the process of self-guided quality. The learning contract will enable the learner to complete his / her goals successfully. It has the following guidelines and details: First, The learner will determine and write clear objectives of what he wants to learn about the subject. Second, the students plan to learn activities to achieve the purpose of the goals. Third, the learning Methods / Resources for learning students identified as resources that they need when studying. Fourth, is the duration of study which determines the success of the learning whether it was met the contract date. Then lastly, is the evidence of learning and assessment to prove that learners have learned from the activities. It states the process of learning the contract. It is essential that the learner has mastered the learning objectives. The exact date and time of the assignment are determined to assess the progress and progress of the course.

Table 1: Learning Contract

<table>
<thead>
<tr>
<th>Name of learning activity:</th>
<th>Purpose of learning Learning</th>
<th>Activities</th>
<th>Learning Methods / Resources for Learning</th>
<th>Duration of study</th>
<th>Evidence of learning and assessment</th>
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<td>2.</td>
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</table>

Phase 3: (BE 2016-present) Integrating Contract Learning into Activity Based Learning

The instructor led the inquiry to encourage learners to seek out knowledge. Think and solve problems in a systematic way of using the process of scientific inquiry. Teachers have the responsibility to provide an atmosphere of instruction that is conducive to learning. Reinforcing
teaching is a way to learn and teach students to think and solve problems. There are steps in following this learning:

1) Engaging in a learning process that will lead to the lesson. The curiosity of the student in the activity links the existing learning experiences to the new learning. This makes the students interested in connecting ideas and in using the process or experience with the original base.

2) Exploring is a process whereby learners share experiences in creating and developing concepts, methods, and skills by providing students with time and opportunity to conduct exploration and discovery activities. The students want to learn based on the opinions of each student.

3) Explaining is a step where learners develop more. It can be defined in the survey and search that teachers provide opportunities for learners to discuss their ideas. Describing requires the students to have the full opportunity to develop a clear understanding of the concept. Students will be able to explain the concept comprehensively if they can link their experiences to their prior knowledge.

4) Elaborating is the process by which the learners confirm and extend or deepen their understanding of the concept. It allows them to practice their skills in developing and increasing their understanding of the idea to be able to apply in everyday life.

5) Evaluating is the step where the learners will receive feedback on their self-understanding during the course. Using the reflection method, teachers need to motivate or encourage learners to assess their knowledge and abilities.

In this study, the students are encouraged to develop their academic achievement. Analyzing the development of learning skills through the use of the inquiry process is essential in establishing the learner to explain what he wants to learn by himself. The learner can explain the concept comprehensively by linking experience knowing the origin of knowledge and learning together when it comes to higher understanding. Teachers/facilitators are encouraged to provide students with the opportunity to develop their knowledge and understanding of the concept.

From the review of the development of learning skills, the instructor develops instructional learning using integrated learning based learning (ABL) with the use of group activities (GBL) through an inquiry process (IBL), a new learning model called Contract-Based Learning and CJ-Learning.

The results of the study on the effect of learning contracts on learning achievement revealed that: 1) the learning achievement of the group of students who studied using the instructional package after instruction was higher than the group taught by standard teaching method. 2) Nursing students involved in the learning contract was with higher learning achievement at the .05 level and the opinion of nursing students toward teaching and learning by using learning contract in the course of nursing practice (Klitsaeng, Thongsin, Chanreruk, 2014). 3) The results show that the teaching method using the learning contract is an effective teaching method in achieving the learning objectives. Also, there is the development of intellectual skills of nursing students (Krongtawan, Prapasorn, Wacharapan, Winnil & Kittiworavat, 2011). Therefore, using of learning contracts in learning management has effective learning outcomes.

From the design of teaching and learning, the instructors used the results of the evaluation of teaching and learning as a tool for development. Each student learning contract determines what activities or things the student wants to learn through defining the objectives, planning for activities such as using media and equipment. Information resources will be studied in organizing activities from various sources, including the experts. Students join the group to present individual activities through discussions and opinions. Each student will write a joint learning contract and will write a reflection on their views to analyze what they have learned or practiced.
There is a group instructor as a consultant to facilitate learning. Students will be learning in real-life situations and apply this to practice.

Using the learning agreement is a way to facilitate the process of self-guided quality. In this stage, the design of the teaching will be reduced to 9 teachers. However, the result of the evaluation of teaching and learning process lack learners the ability to search for knowledge to use in learning activities.

**Contract Inquiry and activity-based learning: CIA Learning**

CIA Learning provides an opportunity for learners to practice their skills and behave as they see fit, using a self-directed learning contract with reflective thinking or feedback on explaining your self-knowledge during instruction. The counselor in the learning process is motivating and encouraging the learner to achieve the goals. CIA Learning is a form of teaching and learning that allows students to learn “how to learn” and understanding through the development of skills in learning activities. This learning encourages learners to be active in their thinking as well as to learn from one another rather than relying on the teacher and memorizing the concepts of the lesson. The development of learning skills of students can be acquired by themselves and keep learning continuously. This enhances the value of learning and the effectiveness of teaching and learning.

**Principles of designing learning under the integration of 4 principles of learning integrated (Contract Inquiry Activity-Based Learning-CIA Learning)**

**Self-directedness** learner's initiative is also called as self-directed learning. Self-directed learning is both individual and group. The concept of expanding is to learn from individual to group. The learning process is self-initiated by the learner. Targeting Plan to learn “how to learn” choose the right learning method and evaluate your learning progress. There are activities that students learn together in groups of friends and teachers or other individuals.

**Effective teamwork** is collective learning based on collaboration, where leaders and members accept team decisions. The decision to learn together, sharing knowledge, responsibility and mutual benefit make collaboration more efficient. Therefore, active teams have the activity make better plans.

**Reflection** is a root for students to have the opportunity to consider their thinking. The purpose is to reflect on the learning activities, such as what has been learned in the learning plan and learning problems and solutions. Students can write developmental issues to achieve the intended objectives to apply in everyday life. Reflections are learning from practice, learning activities inability, and knowing how to correct their weaknesses, where instructors advise them to study every week to improve their knowledge and experience of learning activities. In the study, the method of teaching the daily reflection patterns was used in the teaching. Students will be able to link knowledge from the classroom to the practice. In solving nursing problems, one can write reflective thoughts, feelings, and experiences (Chuenkum & Tuangdee, 2012).

**Inquiry** The ability to seek knowledge from various sources of learners such as books, textbooks, journals, as well as from actual practice and the pursuit of knowledge or wisdom with different evidence which is the result of research. The prior learning will be connected with the previous experience or knowledge. This is the knowledge or concept of the learner himself to achieve knowledge more understanding and can describe and extend the effect of learning.

**Real life practice** is a way for students to practice in real-life situations. For the learner to learn from the actual experience and can be applied in daily life. There are various things to do in the environment and the atmosphere to do activities that encourage learning and meet the needs of students.
Expert consultation is an important source of information that learners can identify and find experts and have accumulated knowledge. They have the expertise to learn from folk wisdom, teacher, master, folk medicine.

Sponsor/Counselor Facilitation is an advisor of each student to facilitate the convenience though the students have real experiences. It encourages learning through helping and guiding students to achieve their goals throughout the semester and at the end of the learning process.

Steps of Learning through CIA

1) Review the learning issues
Teachers divide student into groups to review their prior knowledge and learning needs by writing the learning activities in that they want to learn in the business that they are interested in. There are various activities described in a logical way within the group and students can select one. The selected activities should exciting and useful.

2) Determine the learning question
Students determine questions of the learning activity chosen to identify the importance of the activity.

3) Learn through activities
Students plan learning activities based on learning contracts that consists of 6 topics: activity name, purpose, media, equipment, resources, and evidence of learning. The learning contract is a guideline for planning the activities.

4) Finding Knowledge
Students are encouraged to learn more about content related to learning activities such as knowledge of folk wisdom, books, journals, and internet.

5) Apply knowledge of practice
Students bring the knowledge they have gathered from various sources to practice in real-life situations for the intended purpose. The application of activities will suit the real-life situation.

6) Review / evaluate learning
Students are encouraged to apply learning outcomes from their practice, to review and assess their learning, according to the learning contract. When there are problems or obstacles in the implementation of the learning process, they must find ways to learn and correct and more learning.

7) Evaluate the learning process
Students should evaluate the whole learning process of learning through learning activities. This has resulted in students understanding and finding a way to learn from their selves and summarizing the outcome of learning through activity.

The value of the CIA / CIA outcome
Through the development of teaching management, a CIA based learning model is found. CIA model a fundamental philosophy that is learned through the Buddhist way (Enactive transformation). Learning comes from self-engaging in real-life practice. Integration of appropriate teaching methods and well-integrated learning methodologies provide a consistent learning and teaching framework and efficient learning process. There are tools for education and evaluation and preparation of the learners and teachers. These are important factors for learning to achieve goals. As a result of the instructional process, the students learned through all 16 activities with 16 educators as presented:

The actions of the students were divided into five groups:

1) Healthcare by alternative medicine such as Thai traditional medicine, Guasa therapy in the elderly, hydrotherapy in the elderly, Elderly Pillow;
2) Culture and lifestyle such as making Pan, rice cakes, and Sri Lanka light;
3) Environmental protection such as Fairy Garden, beautification of the garden;
4) Health promotion and development of children such as screening for development of preschool children, vaccination and development of children 0-5 years, developmental learning in children 1-4 years, learning activities, special care psychology in children; and
5) Health rehabilitation such as providing comfortable bra for breast cancer patients, and bed care.

The evaluation of learning and self-evaluation of students individually found that the teaching and learning, students produce learning outcomes following the course that determines all the indicators. Also, the analysis of the reflection of the learners found that the design of the teaching also results in more learning outcomes than the curriculum. A summary of the outcome is summarized in Table 2.

Table 2: Increased learning outcomes

<table>
<thead>
<tr>
<th>Indicator</th>
<th>learning outcomes</th>
<th>Learning outcomes</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Expected</td>
</tr>
<tr>
<td>1.1</td>
<td>Recognize values and morals, ethics and human rights.</td>
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<tr>
<td>1.2</td>
<td>Be distinguished.</td>
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<td>1.3</td>
<td>Respect the values and dignity of humanity.</td>
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<td>1.4</td>
<td>Responsible and loyal to oneself and society.</td>
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<tr>
<td>1.5</td>
<td>Discipline, respect the rules and regulations of the organization.</td>
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<tr>
<td>2.1</td>
<td>Knowledge and understanding of the principles and the content of the study.</td>
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<td>2.3</td>
<td>Have knowledge and understanding of the essential aspects of nursing processes and their application.</td>
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<tr>
<td>2.4</td>
<td>Knowledge, understanding of the essence of the process of seeking knowledge, research, and management.</td>
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<tr>
<td>2.5</td>
<td>Have knowledge, understanding, technology in essence. Nursing Information</td>
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<tr>
<td>3.1</td>
<td>Recognize potential and weaknesses for self-improvement.</td>
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<tr>
<td>3.2</td>
<td>Search and analyze data from a variety of sources.</td>
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<td>3.3</td>
<td>Using to refer to and resolve the problem creatively.</td>
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<tr>
<td>3.4</td>
<td>Analyze critical thinking, And systematic analysis.</td>
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<tr>
<td>3.5</td>
<td>Use scientific processes in research and innovation efficiently.</td>
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<tr>
<td>3.6</td>
<td>Develop a solution. Efficient, consistent with the changing processes and contexts.</td>
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<tr>
<td>4.1</td>
<td>Good relationships with diverse people.</td>
<td>/</td>
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<tr>
<td>4.2</td>
<td>Working efficiently in a different context or situation.</td>
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<td>4.4</td>
<td>Responsible for duty professional and social</td>
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<tr>
<td>5.1</td>
<td>Applied mathematics and statistics in nursing. Clause 5.4 can be used for essential computer programs.</td>
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<tr>
<td>5.3</td>
<td>Communicate effectively and appropriately with the situation.</td>
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</tr>
<tr>
<td>5.4</td>
<td>Responsible for professional and social responsibilities</td>
<td>/</td>
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<tr>
<td>5.5</td>
<td>Select and use information presentation style as well as information technology</td>
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</table>
Conclusion

The development of instructional management, CIA, using the learning philosophy as a guideline for the development and integration of teaching methods in learning activities through the inquiry process by learning contract is effective and operative in the 21st century. It gave the learners the opportunity to process their learning and apply it to real-life situations. The goal of this learning process is to achieve and create innovation from learning. The learners' learning outcomes increased in terms of morality, ethics, knowledge, intellectual skills. Interpersonal relationships and responsibilities were also developed. The use of digital thinking, communication and information technology skills corresponds to the learning skills of 21st-century learners.

CIA which integrated inquiry process, learning contract and group process into ABL was effective in fostering course's specified learning outcomes and higher learning skills among first-year nursing students. The recommended guidelines should be adopted in designing future ABL course.

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