

The Application of Active Learning to Develop Creativity in General Education

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Abstract—This research is conducted in order to 1) study the result of applying “Active Learning” in general education subject to develop creativity 2) explore problems and obstacles in applying Active Learning in general education subject to improve the creativity in 1780 undergraduate students who registered this subject in the first semester 2013. The research is implemented by allocating the students into several groups of 10 -15 students and assigning them to design the activities for society under the four main conditions including 1) require no financial resources 2) practical 3) can be attended by every student 4) must be accomplished within 2 weeks. The researcher evaluated the creativity prior and after the study. Ultimately, the problems and obstacles from creating activity are evaluated from the open-ended questions in the questionnaires. The study result states that overall average scores on students’ ability increased significantly in terms of creativity, analytical ability and the synthesis, the complexity of working plan and team working. It can be inferred from the outcome that active learning is one of the most efficient methods in developing creativity in general education.

Keywords—Creative Thinking, Active Learning, General Education.

I. INTRODUCTION

IT is widely accepted that human’s creativity plays an important role on developing and solving social problems in every aspect. The educational institutes in Thailand all realized to this significance. Consequently, the universities determine the topic regarding creativity development to be one of the crucial topics of Thai Qualifications Framework for Higher Education [1]. As a result, Prince of Songkla University include this issue in the main topic in general study subject which is compulsory subject for students in every program.

Nonetheless, in order to develop the ability to solve problem creatively, it is necessary that the students are well nurtured about the perception of creativity and possess pioneer thought. After reviewing the existent literature, the researcher applied Guilford’s theory [2] as a basic for further development. His theory states that a person who possess creative characteristic must have a divergent thinking that means original, flexible, fluent and elaborate school of thought.

According to a great number of students, however, only one lecture in class is not adequate to bring about the effective creativity in students. The researcher, as a result, studied and applied Active Learning method as an instrument in teaching

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in which students are allowed to form their knowledge content from real experience acquired from practice, investigation and revision [3]. The process researcher applied according to Fink’s idea [4] consists of 1. Preparation; allocating several small groups of students 2. Implementation; such as select and conduct various learning activities to encourage student’s attention. The activities emphasize on creating the interaction between teachers and students, students and students and students and activities. Students have a chance to implement and record what they have learned 3. Conclusion; it is the step to give students the evaluation of their performances. The researcher, therefore, draw a project “Our Soul is for the Benefit of Mankind” under the perspective of “Doing good things without money” and apply the active learning to develop student’s creativity.

Aim

- 1) To evaluate the result of applying Active Learning in general study subject in developing creativity
- 2) To study the problems and obstacles in applying Active Learning in general study subject in developing creativity

II. METHODOLOGY

A. Instrument

1) **Project proposal**; the project proposal is required at the first step where student are expected to provide 1) Project background 2) Project Objective 3) Fine working plan 4) Estimated result of this project in order to appraise student’s progress in the four main aspects including 1) creativity 2) analysis and synthesis 3) the complexity of working plan. In terms of team working, the researcher appraises the students from observation.

2) **Open-ended questionnaires**; questions are asked to acquire problems and obstacles happened during the project.

B. Respondents

The target of this research is 1780 undergraduates who registered in 895-171 Wisdom of Living which is compulsory for every program of Prince of Songkla University in the first semester 2013

C. Research Implementation

The researcher divided the researching process into 3 main steps according to Fink’s theory as following

- 1) **Preparation**; allocating students into a small group of 10-15 students
- 2) **Implementation**; students are assigned to design the social responsibility activity under the four main conditions

1. require no financial resources
2. practical
3. can be attended by every student
4. must be accomplished within 2 weeks.

In order to achieve the research goal, the proposal of activities must be finished within 2 weeks. In the mean time, the researcher guides the scope of project and gives a lecture about creativity. Later, the Brian Storming method is introduced to students by allocating students into 3 major groups with 5-6 sub-groups, each group should provide their ideas toward the project, discuss, and finally choose the most appropriate activity. Once the activity is finalized, the qualified groups are required to study their own activity topic, allocate work and implement according to determined plan.

3) **Conclusion stage**; project's creativity both prior and after the class is appraised bas upon these criteria 1.Creativity 2.Ability to analyze and synthesize 3.Project's complexity 4.Team working. The discussion is being held after the evaluation between students themselves and student with lecturer to summarize problems and obstacles during project implementation. Open-ended questionnaires are brought in to obtain the required information.

III. FINDINGS

The result is purposefully presented according the determined objective as following;

1) The result of applying Active learning in general study for creativity subject.

The researcher applied the scoring from Dr. Noawanit Sonkram. [5] The results show that 132 projects were designed prior the class and 127 of them conformed to the condition lecture determined. However, there are 8 activities which were approved to implement including

1. Photograph Contest
2. Video Recording to encourage exercising
3. Short movie recording to encourage blood donation
4. University's cafeteria publication
5. Materials collecting for prosthetic leg
6. Scented gel or chunk invention for eliminating odors in toilets
7. Reused paper collecting for School for the blind
8. University cleaning project

Every selected project was practiced and successfully achieved and gain good cooperation from each target each project emphasized on the average score after the lecture increased in every aspect as shown in the Table I.

TABLE I
THE SUMMARIZATION OF AVERAGE SCORE BASE UPON CREATIVITY OF EACH GROUP N= 132

Criteria	Average score prior the class (total 10 scores)	Average score after the class (total 10 scores)
Originality	6.5	7
Analysis and synthesis	7.5	8.5
Sophistication of the plan	7	8
Team work	7	7.25
Total Average score	7	7.68

2) Problems and obstacles in applying Active Learning in general study for creativity subject.

The result reveals that the major problem is imbalance of the large number of student when comparing with the only lecturer. Furthermore, the students are in different study program, so there are problem caused by different study timetable which is rather difficult for them to make an appointment for group discussion. The next problem to be mentioned is a period of the subject which is too short to achieve to objective properly. Moreover, the period of studying this subject is the same period when students are required to attend freshmen activities. Consequently, they have inadequate time to implement the project. The problems and obstacles gained from open-ended questionnaire are displayed in the Table II from 317 students.

TABLE II
THE SUMMARIZATION OF PROBLEMS AND OBSTACLES FROM OPEN-ENDED QUESTIONNAIRES FROM INDIVIDUAL STUDENT N=317

No	Problems and Obstacles	Frequency %
1	The duration allowed to implement the project is too short	31
2	Difficulty in appointment making due to different timetable of students from different study program.	28
3	Lack of responsibility in some group members	21
4	Conflict caused from different point of view.	16
5	The number of students in each section is too much leads to poor coordination and ineffective implementation	14
6	Some materials needed in project are rare and insufficient	11
7	Lack of inventing skills in some students	9
8	Improper task allocation causes unequal work load in each student	8
9	The place is not large enough for students	7
10	Body weakness	4

IV. DISCUSSION

The discussion is divided into 2 matters which are 1) The effects that the class with active learning have on student's creativity improvement, the results exhibits the better average score of students in every aspect, especially, in analysis, synthesis and the sophistication of plan which gain the highest change. The observation after the project also reveals their ability to apply the acquired skills from this course with other project. The score for ability grows considerably as well but less than those mentioned earlier as a result of limited time. The last faucet to be mentioned is team working, for this criterion, the average score presents the least growth. After closely observing, it can be said that students are apparently unfamiliar with working in team as they lack of coordinating skills with other people. The meeting for each discussion consumes such a long time yet nonproductive. After the class, however, the researcher noticed that the ability to adapt, coordinate and accept other's difference improved both in the position of leaders and followers. Nonetheless, there are some obstacles during the implementation process where some of students were absent and did not do their assigned task due to a little responsibility and being distracted by freshmen activities. 2) Problems and obstacles in applying Active

Learning in general study subject to develop creativity. From the researcher's view, the tremendous number of students causes a considerable inconvenience in advising and giving customized help together with a limited time of study and various freshmen activities that students are required to do. Students also have consistent opinion with the researcher's, for them, the most significant problem is the time limitation. However, when grading, the researcher evaluate the quality of work with the compromise of time limitation. Other problems caused from different opinion, different timetable and insufficient materials are the problems that the researcher initially expect them to happen in order to strengthen student's ability. Therefore, they are not regarded as a problem of the research itself.

V. CONCLUSION

Conducting the class with the application of active learning presents the appropriate result in which students' creative thinking is nurtured and excelled as the main principal of active learning is to allow students to interpret their idea into the course of practice. The study results are visually presented in terms of the increase in average score of the project design after the creativity was totally improved. Besides, other aspects supporting study appears better such as students' memory, the problem solving skills, the ability to apply knowledge, eagerness and attention to class.

Despite the mentioned benefits, Active Learning proves some drawbacks as it emphasizes on real practice which required several small groups of students, yet assigning only one lecturer for a large number of students appears insufficient for customized advice and assistance.

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