Using Simulation to Improve Students' Creative Thinking In Economics: An Action Research Study

USING SIMULATION TO IMPROVE STUDENTS' CREATIVE THINKING IN ECONOMICS: AN ACTION RESEARCH STUDY

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Abstract:

Students in Indonesian schools often consider Economics as a subject with knowledge to be memorized, rather than developing creative thinking. The objective of this research was to investigate how the implementation of a simulation strategy can improve Grade XI creative thinking skills in Economics. The research methodology used in this study was Classroom Action Research (CAR) over two cycles. The research setting was a Grade XI Economics of a Christian High School in Indonesia. The sample of this research was 20 students. The results indicated that a simulation strategy can improve students' creative thinking in Economics since it increases their fluency in providing a lot of ideas; flexibility in analyzing ideas openly; originality in producing unique ideas; and elaboration in giving examples and details of the ideas.

Keywords: Simulation, Creative Thinking, Economics, Classroom Action Research

Introduction

Indonesian teachers normally focus on transferring content and information to students without constructing new ideas for personal meaning. A traditional method of teaching dominates most schools in Indonesia where memorization and conventional thinking are used (Solang, 2008; Sudarman, 2007). Thus, Indonesian education on the whole still emphasizes a low level thinking process that encourages students to find and remember one predetermined answer to the given question so that creative thinking is often ignored (Munandar, 2004, p.7). As many teachers view students' intelligence as a facility for storing, retrieving and processing information (Isenberg & Jalongo, 2006, p. 7) their students are unable to develop creative thinking skills which according to Munandar (1999, p.88-90) include fluency in producing ideas, flexibility in analyzing problems, originality in creating products, and elaboration in explaining the concepts.

Creative Thinking

Creative Thinking can be divided in four dimensions known as the Four Ps of Creativity. Personality: Creative thinking indicates the unique expression of the total personality. Process: Creative thinking is a process that indicates new ways of thinking in which an individual tries to find relationships, answers, methods, and new ways in facing problem. Pressure: Creative thinking is a pressure that comes from us in the form of strong passion and motivation to act. Product: Creative thinking can result in a product that indicates
the uniqueness of a person interacting with their environment (Satiaadarma & Waruwu, 2003, p. 107-108).

The four indicators of Creative Thinking are Fluency, Flexibility, Originality and Elaboration. Fluency involves producing relevant responses and building up collections of related ideas. This can be characterized and measured by proposing a lot of ideas, answers, solutions and thinking of a variety of related ideas. Flexibility involves approaching things in alternative ways and analysing problems from a different perspective. Originality includes producing unusual, novel, unique, or clever ideas and combining known ideas into some new form and expressing them in unusual ways. Elaboration involves examples and explanation of ideas and adding interesting detail to expand the ideas (Munandar, 1999, p.90; Satiaadarma & Waruwu, 2003, p. 109).

Simulation

Simulation is a strategy where students are placed in situations that copy real life (Burden & Byrd, 2010, p. 157). Simulation can be implemented through the following four stages as discussed by Joyce and Weil (2000). During the introduction phase, the teacher should present clear learning objectives, the topic to be simulated and general simulation procedures. The second stage, involves simulation exercises for participants that can be done by discussion with the students to prepare for the main simulation activities. The third stage, the simulation presentation, involves activities carried out by the players in the simulation role. The final stage, called stabilization phase or debriefing involves an analysis of the activities with an explanation of the strength, weakness, difficulties and insights of the students by comparing the simulation exercise with real-life activities and linking the simulation process with the content. At the end of the simulation, discussion is important for students to draw conclusions by clarifying the skills, concepts, values and application in real life in the community and proposed recommendations for further study.

Methodology

Classroom Action Research (CAR) is “a form of action research that is conducted by teachers in their classrooms with the purpose of improving practice” (Hendricks, 2006, p.10). Wirilaatmadja (2009, p.66-67) outlines CAR into four components which are plan, action, observe, and reflect as shown in the following Figure 1

![Figure 1. Kemmis and McTaggart Action Research Model (Hopkins, 2008, p. 51).](image-url)
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The sample in this study was a Grade XI Economics class consisting of 20 students, 12 girls and 8 boys in a Christian school in Indonesia. The research investigated whether the implementation of a simulation strategy improved Year 11 students' creative thinking skills in Economics. The instruments included an observation checklist by an outside observer; a student questionnaire that explored students' creative thinking following the simulation lessons, and thirdly the researcher's reflections on how the teaching and learning process impacted the creative thinking development of students. The CAR was conducted in two cycles of two lessons in one week each. Each cycle had the four stages of plan, action, observation, and reflection.

In the first cycle, the researcher developed two lesson plans of 90 minutes that focused on international trade policies and working in groups to simulate the making of international trade policies include 'tariff', 'quota', 'subsidization', and 'dumping price'. The students were allocated into five different groups representing Indonesian consumers; Indonesian traders; foreign traders (Australia, Thailand, Malaysia, and Japan); Indonesian government; and foreign governments (Australia, Thailand, Malaysia, and Japan). Each group was asked to discuss the international trade policies that need to be implemented to benefit their particular group. Each group then presented their ideas to the class so that the other groups could make comments.

In the second cycle, the researcher developed two lesson plans of 90 minutes that focused on goods and service exports and international trade payment methods. The researcher allocated the students into two groups, namely a goods and services exporters group and a payment managers group. Then, the groups were asked to discuss particular examples of exported goods or services from Indonesia and the payment methods of international trade. Following the group discussion each group presented their ideas to the class so that the other groups could give comments.

Results

In Cycle One, students demonstrated fluency in producing a lot of ideas for international policies. They also showed originality in creating unique policies and elaboration in explaining the detail of their ideas. However, the students appeared to have problems with flexibility as they did not listen to or compare their ideas with other students' ideas. The researcher's reflections and the outside observers' observations on this problem indicated that the flexibility was affected because of lack of guidelines and procedures for students to listen to each other. In the next cycle, the researcher planned to set clear procedures and guidelines so that each student would listen to each other while they presented ideas. The researcher planned to help students to learn to be flexible by giving comments on different groups' ideas and comparing these with other presentations. In addition, the researcher planned to encourage students to be more actively involved in the discussion to improve their fluency, originality, and elaboration.

In Cycle Two, it appeared that the clear procedures and encouragement from the teacher helped in making significant changes to the students' development of creative thinking skills. This was demonstrated from their fluency in producing more relevant ideas in creating sources of foreign exchange and payment methods, flexibility in analyzing the other roles perspectives, originality in creating and expressing unique foreign exchange and payment methods with many different ways, and elaboration in explaining more detail of the impact and mechanism of foreign exchange and payment method. The development of students' creative thinking was shown through the students questionnaire result as follows. (See Table 1)
Table 1 Results of Student Questionnaire Cycle 1 & Cycle 2

The students’ questionnaire showed that most students (16) exhibited fluency in Cycle One and all students (20) demonstrated fluency skills in Cycle Two. Most students (15) demonstrated flexibility skills in cycle one and all students (20) demonstrated flexibility in cycle two. Most students (18) showed originality skills in Cycle One and all students (20) showed originality skills in Cycle Two. Finally, most students (17) showed elaboration skills (17 students) in Cycle One and all students showed elaboration skills in Cycle Two.

Discussion

The results showed that the students developed their creative thinking skills during the two cycles of this CAR. As advocated by Munandar, (1999), the simulations copied real life situations within the international trade context. The simulations enabled students to improve their creative thinking demonstrated through the four indicators. Students showed their fluency through finding a number of possible answers to the problem which was developing international trade policies. Students showed flexibility in the way they approached policies in alternative ways, and listening to each other’s different perspectives. Students’ originality was demonstrated in that they showed evidence of developing novel policies. Students showed elaboration skills through sharing their ideas and adding interesting details.

However, there was a weakness of the simulation exercise in the classroom, as the students became noisy in groups as they discussed ideas in Cycle One. As a result the researcher found difficulty in developing students’ flexibility in analyzing each others’ ideas because no clear procedures and guidelines had been set. To overcome this weakness, the researcher set clear classroom procedures in Cycle Two. Sukamto (1997, p.50) stated that teachers should provide clear simulation instructions and procedures. In addition, the teacher encouraged the students to respond, compare, and discuss the resources abuse in international trade so that students could consider the biblical aspect of wise stewardship related to our responsibility to fulfill the Creation Mandate (Van Brummelen, 2002, p.222).
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Conclusion

In this study, simulation strategies introduced in a senior economics class over two cycles of Classroom Action Research were beneficial in improving students’ creative thinking skills. In particular their creative thinking skills developed in fluency in providing a lot of ideas, flexibility in analyzing ideas openly, originality in producing unique ideas, and elaboration in giving examples and details of the ideas as they grappled with specific topics in economics related to international trade. Further Classroom Action Research over more lessons and cycles related to developing students’ creative thinking skills through using simulation exercises in Economics is recommended for other teachers of Grades 11 and 12 students.

References


