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The effect of the using the brainstorming method on the academic achievement of students in grade five in Tehran elementary schools

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Abstract

The present study aimed at examining the effect brainstorming teaching method on the educational achievement of grade-five students in the schools of district 7 of the city of Tehran, Iran in the educational year 2010–2011. In order to do so, 60 students were selected via cluster sampling method, and then one class (n=30) was exposed to the independent variable (brainstorming method), while another class (n=30) was administered through the traditional method of giving lectures. At first, a researcher-made pre-test was administered upon both groups. After that, the independent variable was applied for 10 sessions after which the researcher-made test was administered again. In order to test the research hypothesis, a t-test was used. The result was indicative of the effect of the brainstorming method, and the difference of means in both groups was significant at <0.001. The results showed that using brainstorming method had a positive effect on the students' educational achievement.

Keywords: brainstorming teaching method, lecturing teaching method, educational achievement;

1-Introduction

Education is the only way for the true man to realize and for the societies to reach their desired ideals. Within the last few decades, most of the world's countries have been having concerns that the educational system is not ready enough to develop into the citizens the skills and knowledge required for a successful life in the complicated modern world. Today, in order to properly encounter the wonderful developments of the third millennium, students should improve their skills of critical and creative thinking so that they could take proper decisions and solve complicated problems of their societies.

The most important institution that could pave the way for the emergence of creative ideas and stable learning is the educational system (Aghazadeh, 1384). Teaching is the mutual behavior between the teacher and student, which is exhibited, based on a purposely and systematic plan, by the teacher in order to create the desired changes in the student's behavior (Shabani, 1384).

The goal of applying various teaching methods in different situations is to engender learning in students (Seyf, 1384). Brainstorming consists of implementing a method of gathering together whereby a group tries to find a

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solution to a problem by pooling all the ideas which are presented at the same meeting. This type of gathering is not quite new; a similar way has been identified in India, which is used by Indian teachers working with religious groups, and this method has been used for more than 400 years. There is no discussion in these sessions. The brainstorming method was founded in 1938 when Alex F. Osborn applied organized idea-seeking (HarirForoush and Sadeghi, 1389). The brainstorming session has rules which serve as guides for knowledge and are not restricted at all. Teachers should clearly spell out these rules for learners. Having learnt the rules, the learners should not experience obsession or self-censorship. Their self-esteem is not damaged in these sessions (Aghazadeh, 1384). The rules are as follows:

1. Withhold criticism: While expressing their ideas, none of the members should criticize an idea presented by others, even if it is totally absurd. At the end of the session opinions about different ideas will be surveyed.

2. Flying in dreams: this means that during the session, members should put aside all restrictions of thinking. In fact, for creative thinking, one should trespass ordinary logic and usual red lines.

3. Focus on quantity: The more the number of ideas, the easier their classification.

4. Documentation: each idea, however banal, should be recorded and then exposes to others to see it.

5. Combine and improve ideas: Before ideas are evaluated, they should be completed. Through this, the ideas which were recklessly presented are now revised and completed.

Stages of Brainstorming:

Stage one: introducing the brainstorming rules: The first stage consists of introducing the rules. By writing the list of rules on the whiteboard, we can direct the class processes. When students see the rules, they try not to deviate from the main route.

Stage two: stating the subject or problem: In this stage, the teacher should select a topic for which there are no explicit materials in the book. Students should have at least a little information about the topic. Topics about which students have no knowledge are not suitable. Also, topics which have only a few specified solutions are not suitable. In order to begin, you can give the students some concise introductory but interesting information about the topic. It is recommended that a set of thought-provoking questions be prepared for this stage.

Stage three: expressing ideas: This can be done in different ways. One way is that a person presents his/her idea and then the next person takes turns to do the same, hence a revolving current of expressing ideas.

Stage four: exhibiting ideas for combination and improvement: So far many ideas have been presented. Now ask the group to screen and refine ideas, that is, to discard repetitious, similar, or inappropriate ones. Be careful not to discard original, creative ideas just because of being unusual.

Stage five: evaluating ideas: Now we have a number of classified ideas. Some people mistakenly believe that group brainstorming is the whole process of problem solving; while actually, it is just one of the stages of idea-seeking, the latter itself being just one of the stages of creative problem-solving (HarirForoush and Sadeghi, 1389).

Research question:

The current study aims to answer the following question:

Is the educational achievement of the students who are trained through brainstorming higher than the achievement of those who are trained via explanatory method?

Research method:

In the current study, the researcher tries to identify the principles and methods which could increase the students' educational achievement; therefore, the research method is experimental with pretest and posttest with a control group.

Table1-pretest and posttest with control group

Group	Random selection	Pretest	Independent variable	Posttest
Experiment	R	T_1	X	T_2
Control	R	T_1	-	T_2