THE OPINIONS OF STUDENT TEACHERS ON THE SCIENCE TEACHING BASED ON MULTIPLE INTELLIGENCE THEORY

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SYNOPSIS

Introduction

Multiple Intelligence (MI) Theory bringing a new approach to education is an important theory in the field of personal development. The basis of this theory comprises life time learning and development (Saban, 2002).


According to Gardner, none of the profiles of intelligence that each individual has is the same, and these multiple intelligence can be nurtured and strengthened, or ignored and weakened with environmental factors (Gardner, 1983; Gardner, 1999). Since each person has a different intellectual composition, they have different learning, problem solving, and communicating methods. From this viewpoint, education which treats everybody in the same way is actually the most unfair education. Educators have seen the “Learning and Teaching Based on Theory of Multiple Intelligence” as a means of changing—one hopes, for the better—the kind of education achieved by all children(Gardner, 1993, Gardner & Hatch, 1990).

David Lazear, Thomas Armstrong, Linda and Bruce Campbell, and Robin Fogarty have made important contributions to make MI Theory easily understandable and applicable for educators (Wilson, 1998). Students learn better when their teachers use different methods and techniques in their teaching. With the use of MI Theory, it is possible to reach all students, who learn in different ways.
Purpose

The purpose of this study is to define the student-teachers’ multiple intelligence fields, their opinions about the applicability of the theory in science teaching, about the positive or negative aspects of the science teaching based on the theory, and finally, about the feasibility of the theory, which might be a part of student centered teaching approach during teaching.

Method

This study was carried out in 2003-2004 academic year with 121 student teachers who enrolled in the Elementary Teaching Program and were taking the course “Science Teaching II” and with 26 student teachers who were in the Program of Science Teaching and taking the course “Special Teaching Methods II”.

Firstly, in order to find out the multiple intelligence fields of the student teachers, the inventory of multiple intelligence taken from Saban (2002) was used. Some of the student teachers who had been previously educated on how to use MI Theory as a classroom instruction, planned science lessons according to the theory and tried to apply them in the classrooms where other student teachers played the role of learners working in groups. After these applications, in order to determine the opinions of the student-teachers, a questionnaire consisting of two parts was used.

The first part of the questionnaire contained two questions to determine the opinions of the student teachers about science teaching based on MI theory. The questions were:

1- What kinds of benefits do you anticipate that your students will experience when you teach science according to MI theory?
2- What kinds of difficulties do you anticipate that you will experience during your teaching profession when you teach science according to MI theory?

The student-teachers were asked to define their first 5 choices from the questionnaire.

In the second part of the questionnaire, the questions on the study of the “science teaching based on Multiple Intelligence Theory” were asked in order to find out about their opinions on the benefits they gained from such a study. The questions were:

1- Do you believe that you will be able to use the knowledge you received on science teaching based on MI theory when you start teaching?
2- Do you believe what you learned during the lessons will be adequate to apply science teaching based on MI theory in your classes?
3- Do you think that science teaching based on MI theory should be applied to all classes in primary schools?

The second part of the questionnaire asked student teachers to rate each item on a 1 to 3 response scale where “1= No”, “2= Somewhat”, and “3= Yes”. Additionally, the participants were asked to explain their reasons and make suggestions if any option other than “Yes” were chosen.

To formulate the questionnaire, several expert opinions were taken and the validity of the questionnaire items was confirmed. The data obtained were evaluated in SPSS 11.0 package program, and LSD test was used as multi-comparison test. Also, the frequency and percentages of distribution of the student teachers’ responses to the items were provided.
Results and Discussion

In this study, as the initial phase, student-teachers’ profiles of intelligence fields were determined, and a significant difference in the “Verbal-Linguistic” intelligence fields was determined in favour of the student teachers who were in Elementary Teaching. When the mean distribution of the student teachers’ intelligence fields was evaluated, it was seen that there was a homogenous distribution among the students’ MI profiles.

According to the research findings, most of the student teachers believed that science teaching based on MI theory resulted in effective, creative, and enjoyable learning, but the planning, material preparation, and assessment sides of it required so much time and money. They stated that when they start their teaching carrier, they believe they would be able to use the methodological knowledge they received on teaching based MI theory, and added that education in the classes of primary schools needed to be carried out based on that theory.

The learning model based on MI theory is believed to create a learning environment that helps students keep up with the needs and improvements of 21st century. To become better educators as the directors of children, the theory can be used as a guide in the classroom.

In conclusion, it is possible to state that providing student teachers with new and different teaching approaches and methods on science teaching before they graduate from the departments of faculties of education positively influences their teaching, and contributes to the improvement of their creativity, and the ability to adopt new teaching materials in their own science classes. In this way, they are believed to form more qualified teaching and learning environments.