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The effects of integrated unit and constructivist based teaching learning process on fourth grades students' learning levels, attitudes towards learning, academic self-confident

Behsat Savas^{a*}, Nuray Senemoglu^b, Ayfer Kocabas^c

^aMehmet Akif Ersoy University, Burdur, Turkey

^bHacettepe University, Ankara, Turkey

^cDokuz Eylül University, İzmir, Turkey

Abstract

The main purpose of this study was to test the integrated unit and teaching activities based on constructivist together and separately during the unit of our close environment in social studies class of 4th grade in a state school. For this purpose, the following processes and methods were conducted in three experimental groups:

- 1- Integrated unit and constructivist teaching and learning processes.
- 2- Integrated unit and traditional teaching methods.
- 3- Traditional unit and constructivist teaching learning processes.

The research was conducted with four groups, as three experimental and one control groups. At the end of the research, it was observed significantly difference in the scoring means of academic achievement, attitude and academic self confidence in favour of the experimental groups which received instructions with integrated unit based on constructivism and integrated unit based on traditional teaching than control grup.

Keywords: Integrated Unit, Constructivist Teaching, Social Studies

1. Introduction

Erikson (1995) states that differentiation on economics, politics and demographic features of population caused to the variation of school programs to be quick and complex. Integration lessens dispersion since it facilitates connection of program. Integration provides indepth learning and teaching, prevent bulk of data (Oliva, 2001: 272-274).

Integrated program had came out in names of multidisciplinary, interdisciplinary, transdisciplinary in 1980-1990's. What is the integrated program? It is to connect between disciplines with the basic meaning. How much connecion will be formed? How much context will taken from which discipline? Will the context be taken from real life? Will the connection between disciplines based on knowledge and ability.

Defining integrated curriculum has been a topic of discussion since the turn of the 20th century. Over the last hundred years, theorists offered three basic categories for interdisciplinary work; they defined the categories often had different names.

*. Tel.: +90-248-213-4110

E-mail address: bsavas@mehmetakif.edu.tr

- 1- Multidisciplinary integration
- 2- Interdisciplinary integration
- 3- Transdisciplinary integration (Drake & Burns, 2004:8-15)

The qualifications which are being gained to individual by integrated program are these:

- Getting information
- Obtaining thinking abilities
- Effective communication
- Being sensitive to environment (natural-social)
- Understanding individual and society (empathy)
- Improving individual competence (Ornstein & Hunkins, 1998:395-396)

Constructivist learning theory explains what must be learned by students through the lesson of social science in two terms: “What is their level of readiness? (intellectual entrance behaviors)” and “What is the quality of their concern through unit activities? All students want to connect new information with their knowledge and to use physical and intellectual competence in all activities. Vygotsky in his words “with assistance every child can do more than he can do by himself” (Zorillo, 2002:30-32).

Students can develop their attitude about environment they lived by taking part in various activities. They are expected to show interest with emphatic feelings in the people living around and places, to be sensitive to rural and urban areas, to develop attitude towards environmental pollution (Foley & Janikoun, 1996:3-4).

Integrated program is convenient to nature of development. Physical development effects intellectual and social development. This property of development necessitates the integrated program at least (Wishon., Crobtree & Jones, 1998).

2. Method

The main purpose of this study was to test the integrated unit and teaching activities based on constructivist together and separately during the unit of our close environment in social studies class of 4th grade in a state school. For this purpose, the following processes and methods were conducted in three experimental groups:

- 1-Integrated unit and constructivist teaching and learning processes.
- 2-Integrated unit and traditional teaching methods.
- 3-Traditional unit and constructivist teaching learning processes.
- 4-In the control group, traditional unit and traditional teaching processes were conducted.

The integrated unit and teaching and learning activities based on constructivism were developed by the researcher. The unit was integrated by including the social science, science, mathematics, Turkish, painting, music, physical education courses for the 4th grade. As constructivist teaching activities group investigations are based on cooperative learning, instructional approaches with discovery and presentation methods and various active learning activities were done. The researcher himself studied as the teacher with all experimental groups and the control group (36x3 =108 hours of teaching). The statistical analyses used in the research are as follows: Arithmetic Mean, Standard Deviation, Analysis of Variance, Scheffé Test.

The pre-and post-test design was used in the research. The research was conducted with four groups, as three experimental and one control groups. One of the groups assigned according to equal possibility was defined as

control group. The data were gathered by; a) Learning Level Test (Cronbach alpha .81) b) Attitude Test (Cronbach alpha .80) c) Academic Self-Confidence Test (Cronbach alpha .85)

3. Findings

The learning level, attitudes towards learning and academic self-confidence scores of the experimental group and control groups were compared. At the end of the research, it was observed significantly difference in the scoring means of academic achievement, attitude and academic self confidence in favor of the experimental groups which received instructions with integrated unit based on constructivism and integrated unit based on traditional teaching than control group. While the experimental group receiving constructive instruction with traditional unit was differed significantly than the control group regarding academic achievement, there was no significant difference between attitude and academic self confidence.

A one way between group analysis of variance was conducted to explore the impact of groups on levels of post test academic achievement. Subject was divided into four groups according to research groups. There was statistically significance difference at the $p < 0.5$ level in academic achievement scores for the four research groups ($F_{(3,142)} = 18.52$ $p = .001$). The effect size, calculated using eta squared, was .39, as large effect. Post hoc comparisons using the Scheffe test indicated that mean score for group 1 (Mean=21.79 SD=3.41) was significantly different from control group (Mean=14.62 SD=5.25), group 2 (Mean=18.37 SD=3.39), group 3 (Mean=18.75 SD=3.99). Group 2 did not differ significantly from either group 3. Control groups differ significantly from either group 1 or 2 or 3.

A one way between group analysis of variance was conducted to explore the impact of groups on levels of post test attitude. There was statistically significance difference at the $p < 0.5$ level in academic achievement scores for the four research groups ($F_{(3,142)} = 122.32$ $p = .005$). The effect size, calculated using eta squared, was .09, as medium effect. Post hoc comparisons using the Scheffe test indicated that mean score for group 1 (Mean=62.05 SD=4.10) was significantly different from control group (Mean=57.90 SD=7.33), group 2 (Mean=61.65 SD=4.27), different control group. Group 3 (Mean= 59.97 SD= 4.99) did not differ control groups.

A one way between group analysis of variance was conducted to explore the impact of groups on levels of post test academic self confidence. There was statistically significance difference at the $p < 0.5$ level in academic achievement scores for the four research groups ($F_{(3,142)} = 80.32$ $p = .001$). The effect size, calculated using eta squared, was .14, as large effect. Post hoc comparison using the Scheffe test indicated that mean score for group 1 (Mean=36.89 SD=3.71) was significantly different from control group (Mean=33.62 SD=4.45), group 2 (Mean=36.91 SD=2.57), different control group. Group 3 (Mean= 35.77 SD= 3.71) did not differ control groups.

4. Conclusion

In the research learning level had handled as a dependent variable, data get as quantitive intended for attitude to learning and academic self confidence had reviewed and it is concluded that to organize units in such a way that they include both integrated program and constructivist teaching process is more effective on intellectual and sensual development.

Zorillo (2002) states that integration is necessary while forming social science unit. When the integrated program and constructivist learning activities carried out together around theme centered social science lesson, it had observed that success, attitude, academic self confidence increased. Integrated program is carried out from primary to higher education level in success. The researches intended for effectiveness of integrated program in various school and class levels, it is understood that integrated program is efficient by Levin (1995), Wright., Sorrels & Granby (1995), Kieffer (1996), Ford (2000).

Another variable tested in the research is that the effectiveness of constructivist approach on success. Castori & Potter (1996), Lord (1999), Golden (2001), Glover (2002) found that constructivist learning process has a positive effect on student success. The results of this study is also supports related studies intended to success.

There is researches show that constructivist teaching process is also carried out in success at various class levels as in integrated program. Moussiaux & Norman (1996) stated application rates of constructivist teaching process at primary and high school level. Fauts, Abbott & Baker (2003) observed the application rates of constructivist teaching process in various schools at primary and high school level and stated that the activities constructivist completely are in rate of 17%.

In the research, integrated unit structure developed attitudes of students toward lesson. Forming integrated unit structure by taking into account concern and needs of students and choosing research subjects according to their preference had supported developing positive attitude. It is observed that integrated program develops positive attitude towards learning in the researches of Doğan (1993), Tican (1996), O’Neal (1998), Doster (2004), either.

Attitude and academic self confidence taking part in sensual features of students are effected from intellectual products. In the result of research development of the most intellectual and sensual products had been came across in the group of Integrated Unit Constructivist Teaching group. Özkan (2001), Guay., Marsh & Boivin (2003), Moore (2005) found a high correlation between academic success and academic self confidence.

When students’ ideas intended for unit process examined the students of group which had performed integrated unit and constructivist approach had seen that they enjoyed teaching process, adopted student based approach instead of traditional teaching approach and connected between disciplines. This situation is supported by research results of Loepp (1999), Norman (1997), Lord (1999), Becker (2003).

The parents of students taking part in constructivist teaching groups stated that teaching process should organized in manner that consisting researching-examining, they are happy since students attend to cooperative studies, sensibility to environment of students increased. Providing parent support for integrated program increases student success. Integrated Unit and Constructivist Teaching activities showed that success level of students differs from level of students of other research groups in a meaningful level. The ideas of parents’ intended for integrated unit process is supported by the results of researches performed by Ornstein & Hunkins (1998), Nesin & Lounsbury (1999), Bailey (1999), Cockrum (2004).

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