Effectiveness of Constructivist Approach in Teaching Science at Primary Level

Swetang M. Patel

Abstract: The aim of the present study was to examine and compare the effect of traditional teaching approach and constructivist teaching approach on different aspects of students. Hence the title of the present study is “Effectiveness of Constructivist Approach in Teaching Science at Primary Level.” In present study the effectiveness of both teaching approaches were examined on students’ four phases of learning, on students’ science processing skills and on students’ meta-cognitive skills. To compare the both teaching approaches an experimental research program of 30 days was prepared. The content of teaching program was prepared from the running textbook of Science and Technology of standard seven in 2013 prepared by GCERT Gujarat. Three units 1. Characteristics of Magnet, 2. Fertility of Soil, 3. Motion, Force and Speed were selected for the teaching material. After preparation of constructivist teaching material the researcher has started his experiment in three different schools governed by the Municipal Corporation of Anand, Gujarat. The students studied in standard seven were randomly selected for the experimental group and control group. Hence total 76 students were selected for experimental group and 76 students were selected for the control group. Experimental group – Control group Post Test Design was applied for the study. The experimental group was taught by constructivist teaching program and the control group was taught by traditional teaching method. For the comparison of both teaching methods on students four phases of learning like information getting, applying, analyzing and creating researcher has constructed achievement tests for each unit and for all units together. During his experiment and at the end of experiment the students of both groups were given these achievement tests. The items of achievement test were prepared according to the content of the teaching units. To compare the effectiveness of both teaching approaches on students’ science processing skills like recalling, comparing, classifying and imaging the researcher has constructed Science processing skills test regarding the content of teaching units. The science processing skills test was given to the students of both groups after completion of all units. To compare the effectiveness of both teaching approaches on students’ meta-cognitive skills a ready made Meta-Cognitive Skills Awareness Inventory given to both groups. Data were collected and analyzed using SPSS. The results of t-test described that the students taught by constructivist teaching approach were higher achiever in four phases of learning than the students taught with traditional teaching approach. The results saw that the students of experimental group used more science processing skills and meta cognitive skills compare to the students of control group. Hence the present study proved that the constructivist teaching approach was more effective than the traditional teaching approach.

Key Words: constructivist teaching approach, traditional teaching approach, four phases of learning, science processing skills and meta-cognitive skills.