

ABSTRACT

Teaching methods are the vehicles of the learning process. Depending on the methods of teaching the teacher can choose the right kind of teaching –aids and techniques for teaching. The present study deals with the Methods of Science Teaching at the Secondary level. There is no doubt that competency and efficiency of science teachers can be enhanced through the use of appropriate method of teaching. The study attempts to find out the appropriate method of teaching general science in secondary schools. The main objective of the study is to find out the effectiveness of the three different methods of teaching general science i.e. Lecture cum Demonstration method, Inquiry method and Laboratory method. It also investigates the relative effectiveness of these three methods in relation to type of management of the school, locality and board or certificate. The study further examines the problem faced by the teachers in teaching general science by using different methods. The investigator used experimental and descriptive survey, research methodology to conduct the study. The population of the study includes all the teachers teaching general science and students studying at the secondary level. The geographical delimitation of the study is undivided Kamrup district (metro and rural), Assam. The sample schools of the study is selected by following stratified random sampling method. The schools were stratified on the basis of nature of management, locality and academic board or certificate. A total number of 60 secondary schools are included in the sample. In selecting the students for the sample, achievement level was taken into consideration. Annual examination result of class IX was taken as the basis and the investigator tried to include students having almost same achievement level to maintain homogeneity. A total number of 3069 students of class X standard and 76 teachers teaching general science are included in the sample. To conduct the experiment, pre-test and post-test design was considered as the most appropriate design. Accordingly the sample students were divided into three groups, each group consisted of 1023 students. A pre-test was prepared for testing previous knowledge of

the students with full marks 20 and this test was administered to the students before starting the actual teaching by following three different methods. This group is the control group of the experiment. Then teaching started by following three different methods to three different groups of students. Meanwhile a post-test was prepared for evaluating the achievement of students. In preparing the tests the same unit from science text book was used for the both tests (pre and post). The achievement scores of the post-test was used to compare the effectiveness of one method over the other. A structured interview schedule was used to find out the problem faced by teachers in using different methods of teaching general science. Analysis and interpretation of the data reveals that among three different methods of teaching general science namely, lecture cum demonstration method, inquiry method and laboratory method, laboratory method is the most effective method. The effect of teaching on different groups of students by three different methods were found to be significant but the modern methods i.e. inquiry and laboratory are more effective than the traditional method. Out of three pairs of Mean scores of methods i.e. lecture cum demonstration and inquiry, lecture cum demonstration and laboratory method and inquiry and laboratory method, the pair of inquiry and lecture cum demonstration is found to be the best combination. From teachers opinion the effectiveness of methods is also reflected in teaching science. Most of the teachers are in favour of combinations of methods. A positive view of teachers regarding the use of methods in science teaching is essential which can make teaching learning process very effective. Innovative views and ideas can enhance science education in future course of action at secondary level.