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THE RELATIVE EFFECTIVENESS OF THREE METHODS
OF TEACHING ON STUDENT'S ACHIEVEMENT
IN COLLEGE CHEMISTRY

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ABSTRACT

The main concern of this study is to examine the effects of the three methods of teaching on the achievement of Second Year College Chemistry Students. The three methods of teaching are the Traditional Approach (Lecture Method), the Individualized Instruction Method and the Cooperative Learning Approach. Cooperative Learning is a classroom learning environment in which students work in small, mixed ability groups working on a common task activity. Individual Instruction is an approach to teaching where students perform the activity individually at their own pace. The traditional approach is the lecture method where the teacher is in command of the whole learning process. Worksheets which are considered as self-instructional packets were designed for use for both Individualized Instruction and Cooperative Learning Groups.

The effectiveness of these three teaching methodologies was measured in terms of the posttest scores the students got from the achievement test developed for this study. The performance of these



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students in the posttest were then compared.

The different methods of teaching were also compared in light of the differing personality types (Extroverts and Introverts) of students as measured by the Myers-Briggs Type Indicator. The existence of interaction effects between personality types and strategies of teaching were also considered.

The researcher made use of the non-equivalent control group design where intact classes were used. An achievement test made up of 30 items was constructed and validated. This was administered as Pretest and Post-test. A 2 x 3 factorial design was used. Analysis of Covariance was used as the data analysis procedure with the pretest as the covariate.

The results of the F-test at the .05 level of significance revealed significant differences was found in the achievement of students exposed to the three methods of teaching. When the differences between means for the different methods of teaching were compared using the Scheffee Method of Multiple Comparison, it showed that students who were subjected to the traditional method achieved better than the students exposed to the individualized instruction



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method. No other pairs of means were found to be significantly different.

Analysis of data also showed that the group means for the introverts and extroverts were not found to be significantly different. The performance of the introvert is not significantly different from that of the extroverts. The analysis further revealed no significant interaction between the treatment, the methods of teaching, the Extrovert-Introvert type of students. This means that regardless of the method used in teaching, the effect on the achievement of introverts and extroverts is the same.

Results of the study further showed that there are certain topics that are better taught using a particular method. This suggests that strategies of teaching must be varied according to topics to keep students interested and motivated to learn.

