

ABSTRACT

Effects of Complex Instructions And Six Learner Variables On Selected Jamaican Grade 4-6 Students' Science Performance: A Case Study

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This study investigated the effects of two sets of instructional strategies; namely Complex Instruction (CI) and the lecture/demonstration strategies, and the attitudes towards science, gender, socioeconomic background, self-esteem, grade level, and the understanding of three science concepts by Jamaican grades four, five and six students. The year-long study was conducted in an inner-city primary school where eight teachers, including the researcher, participated along with 311 students, of whom 157 were males and 154 were females. Two grade four classes, one grade five class and one grade six class constituted the experimental group of 156 students, while the control group had similar class compositions but with a total of 155 students. Five instruments were utilized to collect the data: Attitudes To Science Questionnaire, Socioeconomic Background (SEB) and Self-Esteem Questionnaire, and three 20-item multiple choice tests on Machines, Water and Measurement.

The results indicated that (a) no significant differences existed in the experimental and control groups of the grades four and five students' pre-test scores on the three science concepts, but there was evidence of such an existence in grade six in favour of the experimental groups; (b) all experimental groups

across the grades significantly outperformed their control group counterparts in the post-tests; (c) there were significant differences in the students' post-test performance on the three tests based on gender, in favour of the females, grade level, in favour of grade five students, followed by grade six then grade four, post-test attitudes towards science in favour of students with highly positive attitudes towards science, followed by students with average then low attitudes towards science, and treatment in favour of the experimental students taught using the CI technique; and (d) there was a positive, statistically significant but weak relationship between the students' (i) gender, (ii) attitudes towards science, and (iii) treatment and their post-test performance on the three tests, but there was no relationship between their grade level, self-esteem and socioeconomic backgrounds and their performance on the three science concepts.