

## Abstract

### **Effects of Instructional Strategies on Grade Nine Jamaican Students' Performance on the Nervous System and Sense Organs**

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Investigated in this study were the effects of three instructional strategies namely: practical/inquiry-oriented, cooperative learning, practical/inquiry-oriented, cooperative-competitive learning, and lecture, teacher-demonstration, individualistic learning, on selected grade nine Jamaican students' science performance. Attempts were made to determine if there were statistically significant differences in the students' posttest performance based on their gender, attitudes towards science, self-esteem, socioeconomic background (SEB), and school location. The relationships among these variables and the students' posttest performance were also investigated. The sample (n= 994) consisted of 367 boys and 627 girls, enrolled in ten traditional high schools (three rural and seven urban) in Kingston, St. Andrew and St. Catherine. The instruments used were: a Science Achievement Test (consisting of 30 multiple choice questions on the sense organs and 25 on the nervous system), an Attitudes Towards Science Questionnaire, and a Self-esteem Scale. The results indicated that (a) the two practical/inquiry-oriented cooperative learning groups performed significantly better than the lecture, teacher-demonstration group on the sense organs and nervous system; (b) students with highly positive attitudes towards science performed significantly better than their peers on both the sense organs test and the nervous system test; (c) there were significant differences in the students' performance on the nervous system test in favour of students with high self-esteem, and on the sense organs test in favour of urban students; and (d) there were positive, statistically significant, but weak relationships between their (i) treatment, (ii) attitudes towards science, and (iii) self-esteem, and their performance on both tests; and between school location and their performance on the sense organs test.