

ABSTRACT

Julie Ann Holmes

Museum-Based Learning: Informal Learning Settings And Their Role In Student Motivation And Achievement In Science

(Major Professor: Randy Parker)

This study examined changes in student motivation and achievement in science in relationship with a visit to the IDEA Place Experiment Gallery. The study was based on the pretest-posttest control comparison group design with four treatment groups: control, exhibit, lesson, and exhibit/lesson. The sample was 228 sixth grade students from a public north central Louisiana school who were randomly assigned to one of the four experimental groups. Pretest, posttest, and delayed posttest measures of intrinsic motivation and achievement in science were determined using the Children's Academic Intrinsic Motivation Inventory and an achievement test written to measure areas of science incorporated in the Experiment Gallery exhibits. The data were analyzed using a one way Analysis of Variance (ANOVA), dependent *t* tests, and Pearson *r* Statistical analysis revealed: (a) no significant differences in motivation or achievement on pretest and posttest scores between groups and, (b) no significant relationships between motivation level and achievement between groups on the posttest. Significant differences were found within groups for (a) the lesson group in motivation, and (b) the exhibit group in achievement from pretest to posttest and from posttest to delayed posttest. A significant relationship between level of motivation and science achievement was revealed for the exhibit group on the delayed posttests. There were no other significant findings to support that the effects of the treatment led to any long term effects on motivation or achievement within any of the four experimental groups.