

Task Specialization and Group Study on Students' Achievement and Attitude in Physics

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Abstract

The diffusion of responsibility motivated the researcher to conduct this action research that deals with a set of strategies classified under cooperative learning, namely task specialization and group study. The effectiveness of these strategies on achievement and attitude in Physics was investigated. The treatment was conducted for three weeks with the Grade 12 Science, Technology, Engineering, and Mathematics (STEM) students. Grouped into three, each member was assigned as a manager, investigator, and recorder-reporter. Using the Student Physics Test, the result of the t-test = 14.65 showed that giving role assignments has a greater effect on the students' achievement since every student was deeply involved in the learning situations. However, the t-test of -0.47 using the Physics Attitude Inventory showed that there is no significant difference in the attitude towards Physics. Therefore, task specialization and group study significantly influence student achievement. The diffusion of responsibility is lessened when roles are assigned. There was positive interdependence and individual accountability within the group. Every student is responsible for his or her own and others' learning. There was a support system to improve everyone's performance. Hence, cooperative learning increases students' participation in classroom activities. However, the strategies do not affect the attitude of the students. It implies that they already have a favorable attitude towards Physics as STEM students. It is recommended that task specialization and group study be used inside the classroom, not only in the STEM strand and Physics subject, because they increase students' achievement. A similar study on different subjects can be conducted to investigate its effect on students' attitudes. Replication of the study for a longer period should be done to validate the results. Assigned roles can also be varied to establish a greater effect on achievement and attitude. The level of cooperation within the group can also be investigated.

Keywords: action research, task specialization and group study, achievement, attitude, Sto. Nino National High School, Iriga City, Philippines