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ABSTRACT

This study determined the effects of integrated mathematics curriculum to high school geometry students. It sought to determine the effects of integrating Values and English in Mathematics on problem-solving skills among the respondents, their mathematics confidence, their level of critical and creative thinking, and their conceptual understanding. The values referred to in the integrated Mathematics-Values-English curriculum are critical and creative thinking. Moreover, this study determined if there is a significant effect of integrative instruction and mental ability on the problem-solving skills, conceptual understanding and mathematics self-confidence of students.

The quantitative and qualitative methods of descriptive and experimental research were used to gather data from the two third-year classes of one of the schools in the Division of Tarlac Province in SY 2007-2008. For the quantitative experimental research, one group was exposed to integrative instruction while the other one was exposed to traditional instruction. For the analysis and interpretation of the data gathered, the Pearson-Product Moment Correlation Method, the Chronbach's alpha, the t-test for independent sample, the Multivariate Analysis of Variance (MONOVA) and the Friedman Two-Way Analysis of Variance were used. Classroom observation, interview, analysis and review of the written documents, such as test papers and journal of the students were the data gathering techniques for the qualitative data and needed in the second part.

The following findings were the result of the careful analysis of the data: 1) Respondents in the MVE group performed better in problem-solving than those in the TM group as shown by the significant difference in their pretest-posttest results; 2) There are significant differences in the pretest and posttest scores across groups based on the teaching method and the interactions of teaching method and mental ability; 3) There is a significant difference in the pretest and posttest scores of the students based on the teaching method used; 4) These is a significant difference in the pretest scores of the students based on the interaction on mental ability and teaching method; 5) The extent of mathematics self-confidence and critical thinking skills of the MVE respondents were higher that the TM respondents; 6) The respondents in both groups are comparable in terms of their creative skills in problem solving; 7) There is no significant difference in the confidence level of the students across groups in the pretest and posttest; 8) Respondents from the MVE group have higher analytical thing skills and can solve problem involving quantitative reasoning than the respondents from the TM group.

Based on the foregoing findings of the study, the following conclusions were drawn: 1) Integrative instruction is more effective than the traditional method in teaching geometry; 2)

Integrative instruction works better with the low ability students than the high ability students and average ability students; 3) higher achievement scores is caused more by integrative teaching method than mental ability of students; 4) Integrative instruction results to higher problem solving and critical thinking skills of students and a higher level of confidence in solving problems in geometry; 5) Integrative instruction has no significant effect on the creative skills of respondents in solving geometry problems.

Based on the conclusions drawn in the study, the following recommendations are offered: 1) Teachers be encouraged to use integrative instruction to improve the achievement/proficiency level of students in mathematics; 2) Teachers encourage to design/produce instructional materials, lesson guides, lesson exemplars or modules that integrate values and English and evaluate the impact of such instructional materials to students' achievement, critical thinking skills and level of confidence; 3) Schools are encouraged to allocate resources to develop a sustainable program on making integrative teaching and curriculum be institutionalized in schools like in-service training for teachers on integrative instruction, designing and production of curriculum interventions for integrative teaching and conducting impact studies on integrative teaching; 4) For researchers to conduct similar/parallel empirical studies on the impact of integrative teaching/curriculum in other areas of mathematics.