USE OF VISUAL REPRESENTATIONS IN TEACHING ELEMENTARY MATHEMATICS AND PROBLEM SOLVING ABILITY OF STUDENTS

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ABSTRACT

This study aimed to determine the use of visual representations in teaching Mathematics in elementary and the ability of the Grade Six pupils of Dolores Central School Annex, Dolores District to solve a problem. Specifically, this study sought answers to the following questions: What is the profile of the respondents in terms of Age and Sex; What is the perceived level of the respondents on the use of visual representations strategy in problem solving ability in terms of Pictorial imagery, Schematic Imagery; What is the mean pretest performance of the respondents in their problem -solving ability before using the visual representations in terms of Understand the problem, Carry out the plan, Devise a plan, Look back; What is the mean posttest performance of the respondents in their problem solving ability after using the visual representations in terms of Understand the problem, Devise a plan, Carry out the plan, back ;Is there a significant relationship between posttest performance of the respondents in their problem- solving ability and the perceived level on the use of visual representations strategy; Is there a significant difference in the pretest performance of the respondents in their problem -solving ability between male and female; Is there a significant difference in the posttest performance of the respondents in their problem- solving ability between male and female; Is there a significant difference in the pretest and posttest performance of the respondents in their problem -solving ability before and after using visual representations. The respondents of the study were the 34 Grade Six students of Dolores Central School Annex. The study focused on the use of visual representations (pictorial and schematic imagery) in teaching elementary Mathematics and the ability of the students in problem-solving. The researcher employed the experimental type of research as it looked into the relationship between the use of visual representations and the ability of the students to solve mathematical problems. Some statistical tools were employed to answer the problem of the study. The convenient statistical tool to qualify such comparisons is the Pearson product moment correlation which draws and measures the strength associated between two variables. Another statistical method used was the paired t-test to determine the difference between two variables for the same subject. The independent t-test was also utilized to determine whether there is a statistically significant difference between the means in two unrelated groups. Based on the findings of the study, the researcher summarized and interpreted with “advance” ratings after the use of visual representations. The values that appeared were r -values and it was found that there are no significant relationships between the perception on the visual representation and the problem- solving ability of the respondents. Pearson’s Correlation was utilized to measure how strong a relationship is between the data. A closer look on the

result, it could be observed from the data given, that they are closely near 0 which gave a result of not significant. Since this study is interrelated and the result is positive, teachers may use of visual representations strategy in teaching all the subject areas, particularly the English subject. The findings also revealed that the use of visual representations in teaching mathematics is a big help to students for better understanding, and can support learning to improve comprehension of facts and texts.

Keywords: Virtual Representations, Pictorial Imagery, Schematic Imagery, Polya's Problem Solving Methods