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ABSTRACT

This study involved an investigation of the effectiveness of the Realistic Mathematics Education (RME) approach in developing mathematical communication and problem-solving skills of six children diagnosed with autism but classified as high functioning. The RME approach, a research-based instructional pedagogy based upon real-life experiences was implemented over the course of two months.

The A-B-A Single-Subject research design was employed using the principles of discrete trial training to mark the students' progress. The researcher recorded the level of assistance needed to accomplish given tasks in the areas of mathematical communication and problem-solving. Two sets of data were analyzed to determine the effectiveness of the independent variable (intervention lessons). The first data consisted of pre and post-test performance of the students evaluated using a rubric created by the researcher. The second data consisted of baseline, intervention and post-intervention performance of the students collected through recorded video clips and classroom observation forms filled up by the researcher.

A total of six students (five males and one female) with high functioning autism (HFA) whose ages ranged from 8 years and 0 months to 10 years and 0 months participated in this study. The six subjects were observed under the baseline condition until the dependent variable stabilized. Then the experimental treatment, three lessons using a realistic mathematics approach, were introduced by the teacher participants and the subjects were again observed to determine whether a change occurred in the mathematics communication skills and the problem-solving skills of the children after the implementation of the RME approach.

The study showed that the training of teachers and the exposure of the students to the RME approach led to an improvement of the students' ability to communicate mathematically and solve problems meaningfully.