

Meta-Memory Skills Training and its Effect on Improving the Mathematical Information Processing and the Attitude toward the Subject of Primary Students with Mathematical Learning Disabilities

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Summary

Title of the study:-

Meta-Memory Skills Training and its Effect on Improving the Mathematical Information Processing and the Attitude toward the Subject of Primary Students with Mathematical Learning Disabilities.

The aims of the Study:-

The current study aimed to training the primary students with mathematical learning disabilities for meta-memory skills on their Mathematical information processing and training effect transfer to the affective field of attitude toward Mathematics.

The hypotheses of the Study:-

In the light of the study aims and previous studies, the following hypotheses were tested:-

- 1. There are statistically significant differences between means of scores of the experimental group and the control one in the post administration of Mathematical information processing test.
- 2. There is a statistically significant effect of meta –memory skills training in the repeated measures (pre- post- follow) on Mathematical information processing test.
- 3. There are statistically significant differences between means of scores of the experimental group and the control one in the post test of attitude toward Mathematics scale.
- 4. There is a statistically significant effect of meta-memory skills training of the repeated measures (pre- post- follow) on attitude toward Mathematics scale.

<u>Stydy Method</u> <u>Participants:</u>

The study sample included (66) of primary five students with Mathematical learning disabilities. They were divided into two groups, the experimental and the control ones . The experimental group consisted of (32) students , their mean age was (10.15) and (0.28) standard deviation. The control group consisted of (34) students with mean of age (10.12) and (0.22) standard deviation. To validate the

psychometric properties of the study materials,(211) primary students were recruited for conducting the pilot study.

Materials :-

The researcher administered the following materials :-

- A. Colored progressive Matrices Test: prepared by Raven
- B. The Diagnostic Rating Scale of Mathematical learning Disabilities: prepared by Fathy ElZayaat (2008)
- C. Mathematics Tasks: prepared by the researcher
- D. Meta-memory tests which included:-
 - 1. **Meta-memory Battery for measuring the cognitive component:** prepared by "Belmont& Borkowski" and translated by "Maged Mohamed Eassa" (2004).
 - 2. Meta-memory Test for measuring the control component : prepared by the researcher.
 - E. Mathematical Information Processing Test: prepared by the researcher.
 - F. Attitude toward Mathematics scale : prepared by the researcher.
 - G. Meta-memory skills training program: Prepared by the researcher".

Statistical Techniques :-

The researcher employed the following techniques :-

1- The T- Test.

2- Repeated Measures ANOVA.

Study Results :-

The results of the study indicated that :-

- 1. There are statistically significant differences between means of scores of the experimental group and the control one in the post administration of the simple and medium level of Mathematical information processing test.
- 2- There are no statistically significant differences between means of scores of the experimental group and the control one in the post administration of the deep level of Mathematical information processing test.

3. There is no statistically significant effect for meta –memory skills training of the experimental group on the deep level of Mathematical information processing test.

4. There is a statistically significant effect for meta –memory skills training of the repeated measures (pre- post- follow) on the simple and medium levels of Mathematical information processing test of the experimental group.

5. There are no statistically significant differences between means of scores of the experimental group and the control one in the post test of the attitude toward Mathematics scale .

6. There is no statistically significant effect of meta-memory skills training of the repeated measures (pre- post- follow) on attitude toward Mathematics scale of the experimental group .

These results were finally discussed in the light of the theoretical background and the literature review.