

**Faculty of Education
Educational Psychology Department**



**A Training Program based on Habits of Mind for
Improving University Students Ability
of problem Solving**

A Thesis proposal for An MA Degree in Education
Specialization: Educational psychology

By

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Summary

Study title

"A Training Program based on Habits of Mind for Improving University Students' Ability of problem Solving"

Aims of the study:

The study aimed at improving university students' ability of problem solving through practicing a set of mind habits namely, (persisting – managing impulsivity– sustainable learning– meaningful communication– Flexible Thinking –Collaborative Thinking)

Study hypotheses

In the light of the research aims and review of literature the researcher hypothesized the following:

1. The two means of the responses of the two groups (the experimental group and the control one) statistically differ in the overall score of the post test of the habits of mind in favor of the experimental group.

There are statistically significant differences between the habits of mind post-tests means of the experimental and the control groups in favor of the experimental group.

2. the response means of the experimental group statistically differ in the overall score of the repeated measures (pre-test, post-test and follow up) of the habits of mind.

There are statically significant differences between the repeated measures the habits of mind (pre, post, follow up) of the experimental group.

3. The two means of the responses of the two groups (the experimental group and the control one) statistically differ in the overall score of the post test of the ability of solving problems in favor of the experimental group.

There are statistically significant differences between the problem solving ability posttests means of the experimental and the control groups in favor of the experimental group.

4. The mean scores of the responses of the experimental group statistically differ in the overall score of the repeated measures (pretest- posttest – follow up) of the ability of solving problems.

There are statically significant differences between the repeated measures of problem solving (pre-post-follow-up) of the experimental group.

Method:**A- The sample:**

The basic study sample consisted of (66) female students from the Faculty of Education, Fayoum University, divided equally into the experimental group and the control group, with an average age (19.66) and a standard deviation (1.42).

Materials:

The researcher used the following tools:

- 1- The Problem Solving Ability scale (developed by the researcher).
- 2- The Habits of Mind Scale (developed by the researcher).
- 3- A Habit of minds training program (developed by the researcher).

Statistical methods:

The researcher used a number of statistical analysis techniques:–

1. Descriptive statistics (mean, median, and standard deviation).
- 2– The ' T' test for independent samples.
- 3– Analysis of the variance for repeated measures(ANOVA)

Results:

The study revealed that:

1. There were statistically significant differences in habits of mind between the experimental and control group in favor of the members of the experimental group, whereas the mean of the experimental group was higher than the mean of the control group in the six habits of mind (managing impulsivity, persisting, sustainable learning, meaningful communication– Flexible Thinking –Collaborative Thinking).
2. There were statistically significant differences between the mean of the pre and post administration in favor of the post administration in each of the following habits: (managing impulsivity, persisting, Flexible Thinking and Collaborative Thinking), while, there were not statistically significant differences between the mean of the two administrations, pre and post, in the other habits : (sustainable learning, meaningful communication).
3. There were statistically significant differences between the mean of the pre and the follow up measures in favor of the

follow up administration in the persisting habit, on the contrary, there were statistically insignificant differences between the mean of the pre and follow up measures in the habits (managing impulsivity, sustainable learning, meaningful communication, Flexible Thinking and Collaborative Thinking).

4. The results of the study also indicated that there were no significant differences between the means of the post and follow up measures in the habits : (persisting, sustainable learning and meaningful communication), But, there were statistically significant differences between the mean of the post and the follow up in favor of the post administration in the other habits (managing impulsivity, Flexible Thinking and Collaborative Thinking).

5. There were statistically significant differences between the mean scores of the experimental and the control groups in the ability of solving problems $t(64) = 4.22, P = 0.000$, in favor of the experimental one, in which the mean score of the experimental group (34.93) was greater than the mean score (31.15), of the control one.

6. Cohen's coefficient was (1.05), which means that the effect size of the program (experimental manipulation) was very strong according to Cohen's coefficient .
7. There were statistically significant differences between the two means of the pretest and posttest of the ability of solving problems in favor of the post one.
8. There were statistically significant differences between the two means of the pretest and follow up test of the ability of solving problems in favor of the follow up one .
9. There were no significant differences between the two means of the post and follow up problem solving ability test, reflecting that the program has a continuous effect in the post administration.

The researcher discussed the results in the light of the habits of mind and problem solving literature of and she provided some suggestions for future research in the field of the study.