summary

Summary

*Introduction:

At present, the world witnesses an informative revolution exceeding all previous revolutions and requiring a strong scientific base that qualifies it to keep going with the quick changes resulted in this revolution.

The scientific thinking is one of the present age characteristics and a remarkable objective of the contemporary education objectives. Hence, the current study seeks to search, examine, and identify the most important, successful, and efficient styles that may help developing the scientific thinking skills of pre-school children; in attempt to qualify future's children at the third millennium.

*Study Problem:

The current age is characterized by cognitive explosion, communication and informative revolution. The scientific thinking considers a feature of the age where we live in and a target of education; so, the scientists as well as thinkers are giving lots of consideration in scientific thinking as a main objective of contemporary education.

Development of the scientific skills of preschool children represents one of the factors assist building up children minds, intelligence, and personality, enabling children to face their problems in a scientific approach.

Therefore, studies and scientific researches assert the necessity for exerting more efforts to achieve early development of children. For the previous, the study attempts to answer the following main inquiry"

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"What is the effectiveness of a program for developing some scientific thinking skills of preschool children?"

***From this major inquiry, the following minor inquiries are stated:**

1. Do scores of the experimental group children differ on scale of the scientific thinking skills of preschool children pre/post measurement of the program?
2. Do scores of the control group children differ on the scale of the scientific thinking skills of pre/post measurement of the program?
3. Do scores of the experimental group and the control group differ on scale of the scientific thinking skills of preschool children regarding the post measurement of the program?
4. Do scores of the experimental group children differ on scale of the scientific thinking skills of preschool children regarding the post/following up measurement of the program?

***Study Significance:**

- **The theoretical Significance:**

1- The significance of the Topic:

The current study significance is embedded in the significance that the study seeks to design and try a program for development of some scientific thinking skills of preschool children.

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2- The significance of the Age stage:

Preschool children are considered the basic pillar on which the individual's life is based upon, since all a child learns and acquires in early life remains for the rest of his life stages.

3- The significance of discussion:

The present study is a study considers developing scientific thinking skills of preschool children.

4- The study can help preschool children to develop their thoughts in general and the scientific one in particular.

5- The study can help preschool children to use the scientific thinking to build their personality, face problems, and issues in a scientific approach.

- **The Applied Significance:**

1- Designing a coded scale of some scientific thinking skills of pre-school children aged (4-5 yrs. old) apt for Egyptian environment.

2- Designing a program for developing some scientific thinking skills of pre-school children.

3- The potentiality of benefitting from current study results in pre-school children education and socialization through scientific thinking skills.

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*Study Objectives:

- **Checking the effectiveness of the designed program through:**

1. Designing aprogram for developing some scientific thinking skills of pre-school children and check its effectiveness.

2. Designing a scale of scientific thinking and use it to measure the degree of the scientific thinking of the sample individuals pre/post exposure to the program.

*Study Hypotheses:

1- There are significant statistical differences between the average scores of the experimental group and the control group regarding the post-measurement on a scale of the scientific thinking skills of pre-school children post application of the program.

   A. There are significant statistical differences between the average scores of the experimental group and the control group regarding the skill of classification post application of the program.

   B. There are significant statistical differences between the average scores of the experimental group and the control group regarding the skill of serial order post application of the program.

   C. There are significant statistical differences between the average scores of the experimental group and the control group regarding the skill of observation post application of the program.

D. There are significant statistical differences between the average scores of the experimental group and the control group regarding the skill of comparison post application of the program.

2- There are no significant statistical differences between the average scores of the experimental group and the control group regarding the pre/post-measurement on the scale of the scientific thinking skills of pre-school children pre/post application of the program.

A. There are no significant statistical differences among the average scores of the control group children regarding the skill of classification pre/post application of the program.

B. There are no significant statistical differences among the average scores of the control group children regarding the skill of serial order pre/post application of the program.

C. There are no significant statistical differences among the average scores of the control group children regarding the skill of observation pre/post application of the program.

D. There are no significant statistical differences among the average scores of the control group children regarding the skill of comparison pre/post application of the program.

3- There are significant statistical differences among the average scores of the experimental group regarding the

pre/post measurement (after applying the program) on the scale of the scientific thinking skills of pre-school children.

A. There are significant statistical differences among the average scores of the experimental group regarding the pre/post measurement on the skill of classification.

B. There are significant statistical differences among the average scores of the experimental group regarding the pre/post measurement on the skill of serial order.

C. There are significant statistical differences among the average scores of the experimental group regarding the pre/post measurement on the skill of observation.

D. There are significant statistical differences among the average scores of the experimental group regarding the pre/post measurement on the skill of comparison.

4- There are no significant statistical differences among the average scores of the experimental group regarding the post/ following-up measurements after two months of fulfilling the program on the scale of the scientific thinking skills of pre-school children.

*Study Procedures:

- **Method:**

The researcher uses in this present study the experimental method, as the study belong to the experimental

studies with two equivalent groups, the experimental and the control group, applying as well the pre and post measurement on both groups.

- **Sample:**

o **The study sample is consistent of (40) male/female children, aged from (4-5 yrs. old), and divided into two groups:**

a- The Control Group: consist of (20) male/female children who do not receive the program.

b- The Experimental Group: consists of (20) male/female children who receive the program.

The two groups are equal in some variables such as: age – IQ – the socio-economic and cultural level – some scientific thinking skills).

- **Instruments:**

a. The Scale of the Socio-economic Level (by Abdel Aziz Al-Shakhs, 1995).

b. Goodenough Harris IQ Scale (coded by Fatma Hanafy, 1983)

c. Scale of Some Scientific Thinking Skills of Pre-School Children (by researcher).

d. Program of Development of Some Scientific Thinking Skills of Pre-School Children (by researcher).

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- **Statistical Approaches:**

o **The researcher utilizes the statistical methods to check the tools' validity and reliability through counting the following:**

1- Arithmetic Averages and Standard Deviation.

2- T. Test

3- Pearson Correlation Coefficient

***Results:**

1- There are significant statistical differences between the average scores of the experimental group and the control group regarding the post measurement (after applying the program) on the scale of the scientific thinking skills of pre-school children (dimensions and the total degree), in favor of the experimental group.

2- There are no significant statistical differences among the average scores of the control group children regarding the pre/post application of the program skill on the scale of the scientific thinking skills of pre-school children (dimensions and the total degree).

3- There are significant statistical differences between the average scores of the experimental group regarding the pre/post measurement on the scale of the scientific thinking skills of pre-school children (dimensions and the total degree), in favor of the post measurement.

Summary

There are no significant statistical differences among the average scores of the experimental group regarding the post/follow-up measurement (after two and half months of the program ending) on the scale of the scientific thinking skills of.

Graduate Institute of Children's Fund
Department of Psychological Studies of Children

"The Effectiveness of A Program For Developing Some Scientific Thinking Skills in Pre-School Children"

A Thesis Statement Submitted In Partial Fulfillment of the Requirements for Master Degree in Psychological Childhood Studies

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2013

معهد الدراسات العليا للطفولة
قسم الدراسات النفسية للأطفال

فاعلية برنامج لتنمية بعض مهارات التفكير العلمي لدى أطفال ما قبل المدرسة

رســالة مقدمة للحصول علي درجة الماجستير
في دراسات الطفولة من قسم الدراسات النفسية للأطفال

إعداد

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2013

ملحق رقم (1)

جدول أسماء السادة المحكمين

لمقياس بعض مهارات التفكير العلمي

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***رتبت أسماء السادة المحكمين أبجدياً.**