DEVELOPING SCIENCE PROCESS SKILLS AND SOME OF ACCOMPANYING SKILLS THROUGH OBSERVATION OF LIFE CYCLE OF SILKWORM BY KINDERGARTEN CHILD

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ABSTRACT
This research targeted to develop science process skills and some of accompanying skills through observation life cycle of silkworm by kindergarten child. For achieving this purpose the researcher began this work with the study of the science process skills, accompanying skills, observation, life cycle of silkworm and the relation between them through access to the educational literature and the previous studies and research. Two research questions and thirty two hypotheses guided the research. The hypotheses were tested at $p \leq 0.01$ level of significance. The pretest and posttest experimental and control group design was used for the search. A sample was consisting of 34 preschoolers randomly selected from star baby kindergarten – Tanta district was used for the research. The experimental group was taught science process skills and some of accompanying skills using the program based on observation of life cycle of silkworm, while the control group was exposed to lecture method. Three validated instruments called scale of science process skills; two note cards for science process skills and some of accompanying skills. Accordingly, it was concluded that observation life cycle of silkworm by kindergarten child was important for the acquisition and development of science process skills and some of accompanying skills.
Keywords: Science Process Skills; Accompanying Skills; Observation; Kindergarten Child; Life Cycle of Silkworm

INTRODUCTION

The development of the human element in the society from the strategic priorities of the countries that are planning to the future and often these countries begin to prepare and develop her human capital from the first stage of childhood and which is considered a critical and an important stage during which the formation and crystallization perceptions and ways of thinking of the child and his interaction with the world around him. In light of this, the past few decades have witnessed a significant shift not in educational trends, and began to clear interest in teaching thinking, this means that need has become an urgent for children to learn to think And process and skills, it is therefore the development of scientific thinking skills in children of basic goals, which education seeks to it generally and, in particular, the teaching of science in all phases Education.

Both (Coral Campbek &Wendy Jobling , 2012, P. 31) indicate that Kindergarten teacher needs to challenge the children's understanding by providing different experiences, and challenge Child to rethink or understanding, and provide them with a number of rich and diverse experiences And development through discussions and a lot of questions appropriate to their understanding of scientific concepts .

(David Jerner Martin, 2001, p. 9) illustrates that science process approach encourages children to exercise science and apply in their investigations there are also information which kicks off for children To use what they discovered from operations and learn mainly Through its use in finding new scientific phenomenon.

(Ghadeer Ibrahim, Et al., 1998, p. 6) see that kindergarten children like scientists because, they maintained the exercise of their expertise and scientific activities of them as young scientists, and this what supports the importance of the development of scientific thinking skills among kindergarten children as, these skills remain with them until the joined the school, and for this matter countries of the world interested in the development of scientific thinking skills among kindergarten children.

(Heidi Gerard Kaduson & Charles E. Schaefer, 2006, p. 84) see that there are behaviors such as participation and gratitude - and support needed to discover and practice as accompanying skill. And through interactions with other child learns social skills in addition to accompanying language and mental skills (K. Eileen Alleen & Glynnis E. Cowder, 2010, p. 386).

(Susan J. Kovalik & Karen D. Olsen , 2010, p. 95) illustrate that senses help the child to observe by screening the information leaned directly from the senses, which enables him to build from the perspective of the world and the initial observation knowledge to draw many restricted information and works as a precondition and requirement based on the environment. Which is consistent with what (Huda mahmoud Elnashef ,1997, p . 69) said about the importance of learning through senses and stated that the doctor philosopher John Locke, who was believed that the environment and sensory experiences which the child pass through it will determine what he will become, not inherent abilities of the child inside him . He has imagines Child's mind at birth with a blank sheet of embossed upon knowledge and children are just outcome of these experiences. John Locke and his followers especially Maria Montessori believed that the best way to benefit from available expertise the senses of child are trained as windows that enter by it knowledge. The effect of this theory is that the interest in the development of the senses of the child continued to this day as we notice in many of programs in the kindergarten and the tools, materials that are designed specifically for children of this stage in order to train the senses.

(Judy Cusick , Andrew Cocke & Betty Smith , 2006 , P. 124) indicate that observation, classification and discussion help the child to learn a lot about the types of insects and the characteristics, habits, also entertaining facts and learn the role that insects play in our world. As the study each of (Dalia Abdel Wahed , 2004; Samia Mohammed Jawish , 2004; & Hanem Mahmoud Gabr , 2005) confirmed that the kindergarten child's has ability to observe and describe change which occurs in the body of the insect. This is consistent with what stated in (Australian curriculum science , 2011, p. 22) children need to observe, discuss and record stages of the life cycle of silkworm by using brief observations and depending on investigation skill that include questions, prediction, planning, conclusion process, analysis of data, information and communication.

As stated above, the most effective thing that enables kindergarten child to gain science process skills and some of accompanying skills is observing life cycle of silkworm.

Purpose

This study has two purposes. The first to Develop Science Process Skills through observation life cycle of silkworm by kindergarten child, and the second is to develop some of accompanying skills through observation life cycle of silkworm by kindergarten.

Research questions

Two Research Questions of the research in relation of the purpose of the research are as follows:

1. What's the impact of a program based on the observation kindergarten child's life cycle silkworms to develop the skills of scientific thinking all alone on the scale and on the level of scientific thinking skills as a whole?
2. What's the impact of a program based on the observation kindergarten Children to the life cycle of the silkworm on the development of accompanying skills with each separately and on the level of note card as a whole?

Research hypothesis

Research hypotheses formed from two main hypotheses, first main hypothesis includes twenty -seven related to each sub-skill of science process skills. While the second main hypothesis includes three special sub-hypotheses for each skill of accompanying skills.

1. There is a statistically significant difference at the level of significance "0.01" between the average scores of the experimental group and the average scores of the control group in the post to the science process skills scale favor of the experimental group.
2. There is a statistically significant difference at the level of significance "0.01" between the average scores of the experimental group and the average scores of the control group in the post to the accompanying skills note card favor of the experimental group.

METHOD

In this study, a basic experimental study using pre test and post test was designed, in addition to descriptive method.

Pilot study

Fifteen preschoolers from (5-6) years, who were not included in the study, participated in a pilot study. The pilot study revealed that:

1. The program based on observation life cycle of silkworm and its activities were appropriate to the children.
2. The children hadn't any previous experience about life cycle of silkworm.
3. The children were wondered by silkworm and interested in observing it.
4. The children loved the program activities and incorporated in it, and during the show of silkworm feeding, the conversation between two children happened, one of them stated that "I feed silkworm three leaves, and other child said I feed silkworm two leaves".
5. The children involved in discussion that occurred between them and researcher.
6. Instruments of study were validity and reliability.

Sample

In this study, two groups were used: one experimental (17 children) and the other control (17 children). Random selection or sampling of preschool was done to obtain the sample. The research used sample consisted of (34) preschoolers from baby star kindergarten – Tanta district during the 28/4/2013to2/7/2013 academic years, spring semester.

Instrumentation and Analysis

Science process skills scale was administered to both experimental and control group. The research used instruments:
Science process skills scale was prepared by researcher: to measure both basic science process skills and integrated science process skills which has 27 dimensions and consists of (56) items, 5 items related to observation,4 items related to classification , 2 items related to measuring, 1 item related to communication , 2 items related to operation questions , 4 items related to using time/ space relationships , 3 items related to use numbers , 1 item related to sense realize , 3 items related to prediction , 2 items related to inferring , 3 items related to experimenting, 2 items related to formulating models , 2 items related to cause and effect, 2 items related to conclusion , 1 item related to Formulating Hypotheses, 2 items related to interpreting data , 3 items related to description , 1 item related to drawing , 1 item related to investigation , 2 items related to comparison , 2 items related to cooperation , 1 item related to estimation, 2 items related to analyze , 1 items related to control variables , 1 item problem solving , 2 items related to generalize , 1 item related to summarizing and multiple choices, two note cards were prepared by researcher for science process skills consists of (108) items and accompanying skills consists of (27) items , (3) basic accompanying skills (art of rearing silkworm – scientific work rules – scientific conversion) and (8) sub- skills (manipulative skill – hand eye coordination – skill related to Characteristics of life – skill related to health education (hygiene) – skill related to using lenses hand – skill related to time management- general skills – skills related to cooperative work) with reliability coefficient of (.985), (88.3), (89.6) respectively and Wechsler preschool intelligence scale (1999) , scale of the economic and social level of the Egyptian family consists of (9) items and was developed by Abdulaziz Alshakhs (2006) to determine the equivalence between two groups before the treatment.

Three checklists were prepared by researcher for rating scientific attitudes of kindergarten children consists of (10) items, a checklist for rating practice science process skills inside the classroom consists of (8) items and a checklist for rating parent's attitudes toward practice science at home consists of (12) items, with reliability coefficient of (.966), (.763), (.922) respectively. Validity was ensured by involving supervisors in examining the tools. The Treatment For The Research Involved:

1. Teaching the Experimental Group Science Process Skills And Some Of Accompanying Skills Using The Program Based On Observation Of Life Cycle Of Silk Worm.

2. Teaching the Control Group the Same Science Process Skills and Some of Accompanying Skills Using Traditional Method. After The Treatment, Which Lasted For Two Months, The Post Test Was Conducted.

When children's pre- science process skills scale and pre-note card for accompanying skills scores were used as a covariate, ANCOVA was used To test the research questions and to determine the treatment effect on children's post- science process skills scale scores and post - note card for accompanying skills scores. Data was analyzed using SPSS version (17).

RESULTS

To determine the science process skills and some of accompanying skills of the groups, a t-test, Analysis of Covariance, Effect Size and Eta Squared (□2) were made, and due to the no responses to the two groups of children in pre- test so analogy condition has achieved between two groups of children. Results statistics for posttest scores for the control and experimental groups on science process skills scale and note card for some accompanying skills are given in tables.

Table 1: Illustrates the value (p relative) and statistical significance in science process skills scale as a whole in posttest for the two groups

□2	Significance level	P	Mean squares	df	Sum of squares	Source
0.995	0.01	1535.48	5240.52	4	20962.08	Rate model
0.828	0.01	139.53	476.23	1	476.23	Section
0.367	0.01	16.84	57.50	1	57.50	Attitudes of children
0.058	0.192	1.78	6.09	1	6.09	Attitudes of parents
0.126	0.50	4.18	14.27	1	14.27	Attitudes of teacher
0.93	0.01	361.27	1233.01	1	1233.01	Group
			3.41	29	98.97	Error
				34	48280	Total
				33	21061.05	Rate total

Table 1 shows significant treatment effects on children's science process skills (p cultivated = 361.27 at the level of significance "0.01" on science process scale as whole in posttest. and the effect size of program based on observation of life cycle of silkworm in developing science process skills as a whole = 93 % ,this percentage was high effect .

Table 2: Illustrates the rate means for the two groups of study in science process skills scale as a whole in posttest

Rate mean	Group
50.19	Experimental group
6.39	Control group

As seen in table 2 : comparing the rate means scores of children's performances in both the experimental and control groups in science process skills scale as whole with respect to posttest .

Table3: Illustrates the value (p relative) and statistical significance in cause and effect skill in posttest for the two groups

□2	Significance level	P	Mean squares	df	Sum of squares	Source
0.758	0.01	22.69	5.32	4	21.30	Rate model
0.000	0.96	0.002	0.00	1	0.00	Section
0.044	0.25		0.312	1	0.312	Attitudes of children
0.071	0.14	2.21	0.519	1	0.519	Attitudes of parents
0.00	0.95	0.004	0.001	1	0.001	Attitudes of teacher
0.06	0.21	1.68	0.394	1	0.394	Group
			0.235	29	6.80	Error
				34	48	Total
				33	28.11	Rate total

Table 3 shows significant treatment effects on children's cause and effect skill (p cultivated = 1.68 at the level of significance "0.05" in posttest. and the effect size of program based on observation of life cycle of silkworm in developing cause and effect skill = 6% ,this ratio was weak effect .

Table 4. Illustrates the rate means for the two groups of study in cause and effect skill in posttest

Rate mean	Group
1.15	Experimental group
0.37	Control group

As seen in table 4 : comparing the rate means scores of children's performances in both the experimental and control groups in cause and effect skill with respect to posttest.

Table 5: Illustrates the value (p relative) and statistical significance in conclusion skill in posttest for the two groups

□2	Significance level	P	Mean squares	df	Sum of squares	Source
0.894	0.01	60.96	7.31	4	29.25	Rate model
0.026	0.384	0.782	0.094	1	0.094	Section
0.182	0.017	6.45	0.774	1	0.774	Attitudes of children
0.001	0.885	0.021	0.003	1	0.003	Attitudes of parents
0.00	0.995	0.00	4.69	1	4.69	Attitudes of teacher
0.13	0.05	4.39	0.527	1	0.527	Group
			0.12	29	3.47	Error
				34	61	Total
				33	32.73	Rate total

Table 5 shows significant treatment effects on children's conclusion skill (p cultivated =4.39 at the level of significance "0.05" in posttest. and the effect size of program based on observation of life cycle of silkworm in developing conclusion skill = 13% ,this ratio was medial effect .

Table 6: Illustrates the rate means for the two groups of study in conclusion skill in posttest

Rate mean	Group
1.36	Experimental group
0.45	Control group

As seen in table 6 : comparing the rate means scores of children's performances in both the experimental and control groups in conclusion skill with respect to posttest .

Table 7: Illustrates the value (p relative) and statistical significance in cooperation skill in posttest for the two groups

□2	Significance level	P	Mean squares	df	Sum of squares	Source
0.912	0.01	75.11	6.44	4	25.77	Rate model
0.044	0.256	1.34	0.115	1	0.115	Section
0.287	0.002	11.69	1.003	1	1.003	Attitudes of children
0.024	0.409	0.702	0.060	1	0.060	Attitudes of parents
0.00	0.972	0.001	0.00	1	0.00	Attitudes of teacher
0.12	0.05	4.01	0.345	1	0.345	Group
			0.086	29	2.48	Error
				34	53	Total
				33	28.26	Rate total

Table 7 shows significant treatment effects on children's cooperation skill (p cultivated =4.01 at the level of significance "0.05" in posttest. and the effect size of program based on observation of life cycle of silkworm in developing cooperation skill = 12% ,this ratio was medial effect .

Table 8: Illustrates the rate means for the two groups of study in cooperation skill in posttest

Rate mean	Group
1.21	Experimental group
0.48	Control group

As seen in table 8 : comparing the rate means scores of children's performances in both the experimental and control groups in cooperation skill with respect to posttest .

Table 9: Illustrates the value (p relative) and statistical significance in estimation skill in posttest for the two groups

□2	Significance level	P	Mean squares	df	Sum of squares	Source
0.792	0.01	27.64	1.66	4	6.64	Rate model
0.061	0.180	1.88	0.113	1	0.113	Section
0.013	0.544	0.37	0.023	1	0.023	Attitudes of children
0.004	0.723	0.128	0.008	1	0.008	Attitudes of parents
0.00	0.988	0.00	1.40	1	1.40	Attitudes of teacher
0.17	0.05	5.98	0.360	1	0.360	Group
			0.060	29	1.74	Error
				34	15	Total
				33	8.38	Rate total

Table 9 shows significant treatment effects on children's estimation skill (p cultivated =5.98 at the level of significance "0.05" in posttest. and the effect size of program based on observation of life cycle of silkworm in developing estimation skill = 17% ,this ratio was high effect .

Table10: Illustrates the rate means for the two groups of study in estimation skill in posttest

Rate mean	Group
0.815	Experimental group
0.067	Control group

As seen in table 10 : comparing the rate means scores of children's performances in both the experimental and control groups in estimation skill with respect to posttest.

Table11: Illustrates the value (p relative) and statistical significance in analyze skill in posttest for the two groups

□2	Significance level	P	Mean squares	df	Sum of squares	Source
0.835	0.01	36.82	5.33	4	21.33	Rate model
0.087	0.11	2.76	0.401	1	0.401	Section
0.125	0.05	4.15	0.602	1	0.602	Attitudes of children
0.029	0.36	0.86	0.125	1	0.125	Attitudes of parents
0.066	0.164	2.04	0.295	1	0.295	Attitudes of teacher
0.14	0.05	4.71	0.683	1	0.683	Group
			0.145	29	4.20	Error
				34	52	Total
				33	25.52	Rate total

Table 11 shows significant treatment effects on children's analyze skill (p cultivated =4.71 at the level of significance "0.05" in posttest. and the effect size of program based on observation of life cycle of silkworm in developing analyze skill = 14% ,this ratio was medial effect .

Table12: Illustrates the rate means for the two groups of study in analyze skill in posttest

Rate mean	Group
1.39	Experimental group
0.36	Control group

As seen in table 12: comparing the rate means scores of children's performances in both the experimental and control groups in analyze skill with respect to posttest.

Table 13: Illustrates the value (p relative) and statistical significance in generalize skill in posttest for the two groups

□2	Significance level	P	Mean squares	df	Sum of squares	Source
0.875	0.000	50.87	6.02	4	24.09	Rate model
0.066	0.162	2.06	0.244	1	0.244	Section
0.211	0.009	7.74	0.917	1	0.917	Attitudes of children
0.006	0.684	0.169	0.020	1	0.020	Attitudes of parents
0.010	0.601	0.28	0.033	1	0.033	Attitudes of teacher
0.11	0.063	3.74	0.444	1	0.444	Group
			0.118	29	3.43	Error
				34	54	Total
				33	27.52	Rate total

Table 13 shows significant treatment effects on children's generalize skill (p cultivated =3.74 at the level of significance "0.05" in posttest. and the effect size of program based on observation of life cycle of silkworm in developing generalize skill = 11% ,this ratio was medial effect .

Table14: Illustrates the rate means for the two groups of study in generalize skill in posttest

Rate mean	Group
1.29	Experimental group
0.46	Control group

As seen in table 14: comparing the rate means scores of children's performances in both the experimental and control groups in generalize skill with respect to posttest.

Table15: Illustrates the value (p relative) and statistical significance in accompanying skills as whole in posttest for the two groups

□2	Significance level	P	Mean squares	df	Sum of squares	Source
0.998	0.01	4420.53	16500.67	4	66002.69	Rate model
0.93	0.01	386.08	1441.15	1	1441.15	Section
0.008	0.63	0.237	0.884	1	0.884	Attitudes of children
0.02	0.43	0.636	2.37	1	2.37	Attitudes of parents
0.001	0.89	0.016	0.061	1	0.061	Attitudes of teacher
0.097	0.01	1325.39	4947.33	1	4947.33	Group
			3.73	29	108.24	Error
				34	134422	Total
				33	66110.94	Rate total

Table 15 shows significant treatment effects on children's accompanying skills as whole (p cultivated =1325.39 at the level of significance "0.01" in posttest. and the effect size of program based on observation of life cycle of silkworm in developing accompanying skills = 97% ,this ratio was high effect.

Table16: Illustrates the rate means for the two groups of study in accompanying skills as whole in posttest

Rate mean	Group
88.69	Experimental group
0.95	Control group

As seen in table 16 : comparing the rate means scores of children's performances in both the experimental and control groups in accompanying skills as whole in posttest.

It is seen from the tables that experimental group values are higher than the control group values, when compared to the rate mean for the two groups of children from (5-6) years on science process skills scale except for tables (3,4,5,6,7,8,9,10,11,12,13,14) related to cause and effect skill, conclusion skill, cooperation skill, analyze skill and generalize skill. In addition experimental group values are higher than the control group values, when compared to the rate mean for the two groups of children from (5-6) years on accompanying skills note card .

DISCUSSION

The first objective of this research was to compare the effect of program based on observation life cycle of silkworm on developing science process skills , kindergarten children from (5- 6) year- olds .

The results given in Tables 1, 2 suggest that the values about the experimental groups are higher than those about the control groups when comparing the rate Average scores both experimental group and control group got about their science process skills. Except for tables (3-14) related to cause and effect skill, conclusion skill, cooperation skill, analyze skill and generalize skill.

Results of the research are consistent with results of similar studies previously conducted.

Research of (Haigh et al, 2005) about the acquisition of Science process skills science through a live programme that has helped children to be aware of the relevance of Science in their lives. After the programme, children perceived an improvement in applying Science process skills.

Many researchers have shown that hands-on activities incorporating Inquiry based science teaching to science instruction will improve science Attitudes and science process skills (Staver & Small, 1990)

(Anderson, 2002) states that the previous studies indicate employing inquiry based science teaching in science education has some positive effects on cognitive achievement, process skills and attitude towards science.

(Aktamis & Ergin, 2008) found in their study to teach scientific process skills to students to promote their scientific creativity, attitudes towards science, and achievements in science.

(Peggy T.Gordon , 2006) reached that Daily integrating science process skills and developmentally appropriate "hands-on" science experiences into a constructivist preschool classroom had an impact on students' readiness skills for kindergarten.

In order to develop scientific thinking in children (Lloyd and Howe , 2003) have mentioned the importance of developing different thinking skills that can provide scientific thinking rather than adopting approaches that directly target scientific thinking. Moving from there and as is proven in this study; it can be assumed that various thinking skills such as induction, deduction, and problem solving contribute to a general scientific thinking skill.

(Jenny Cheng Oi Lee Et Al., 2012) found in their study Science process skills and logical thinking abilities are factors that can influence children' concept learning in science.

The results of this research indicated that scientific thinking skills of children differ according to age. It can be concluded that scientific thinking skills improve with age. The reasons of this can be the increase in children's experiences and their mental maturing with age.

In this context this result that concluded from this research agreed with results of studies as follow:
(Ozgal polat unutkan, 2006) found in her study scientific thinking skills of children differ according to age. Scientific thinking skills of 5 year-old children are insufficient compared to that of 5.5 and 6 year-olds.

(The national academy of education, 2013) has shown that children begin to show signs of higher-level thinking skills as young as age 4 ½. Researchers have previously attributed higher-order thinking development to knowledge acquisition and better schooling, but the new longitudinal study shows that other skills, not always connected with knowledge, play a role in the ability of children to reason analytically. Children's executive function has a role in the development of complicated analytical thinking. Executive function includes such complex skills as planning, monitoring, task switching, and controlling attention. High early executive function skills at school entry are related to higher than average reasoning skills in adolescence.

On the other hand, the results of this research indicated that the traditional methods weren't effective in teaching science process skills for pre-scholars. In this context (Karah Et Al., 2004) Children understand best when they do activities themselves; working with and playing with real objects. They hardly benefit from listening and watching passively as the teacher talks or demonstrate without them taking an active part Children learn through doing. Children attempt to understand the world around them by observing, hearing, exploring, experimenting and manipulating. The teacher should always realize that science is doing not just being told and therefore children should be actively involved in learning (Nyoroh, Sayles & Munguti, 2003). Young children learn best through the senses. They learn when they look, listen, touch, taste and smell. A child understands concepts when presented in form of real objects, actions and situations (Njenga & Kabiru, 2007).

In this context (Anna Pits, 2013) indicated that using multiple senses allows more cognitive connections and associations to be made with a concept. This means it is more easily accessible to your children.

The second objective of this research was to compare the effect of program based on observation life cycle of silkworm on developing some of accompanying skills, kindergarten children from (5- 6) year- olds.

The results given in Tables 15, 16 suggest that the values about the experimental groups are higher than those about the control groups when comparing the rate Average scores both experimental group and control group got about their some accompanying skills.

The findings of accompanying skills were agree with the pre-school teacher's activity guide (KIE, 2004), which requires the teacher to develop simple experiment which children can understand and do on their own. The activities and materials should be organized in such a way that children come up with their own discoveries. The teacher should give each child a chance to contribute to his or her learning. Pre-school science activities help children explore and understand world around, satisfy curiosity and get answers to questions.

The findings were supported by (Josephine Rutere& Kathure, 2011) that a child should be active participant in learning where they are the doers, the materials are the tellers and the teacher is the guide. The children cannot learn by only sitting and listening to the teacher. Therefore the teacher should allow and encourage the children to explore, investigate, discuss, play, model and practice science activities. Children need real life experiences because they are unable to think through ideas. They need to see and touch for themselves.

According to (Rai & Richardson, 2003) teaching or learning aids are intended to provide children with real life experiences. Children have an opportunity to use their full senses (touch, sight, smell, hear and feel) to enhance learning. This helps in conceptualization of otherwise abstract ideas and helps understanding mastery and retention of the ideas or concepts. So, (K.I.E, 2003) pre-school teachers' activity guides series said that "Science activities are learnt best through inquiry."

(Rosalind Driver et al, 2011) stated that Practical activities help a child to investigate, view such as using lens, modeling and measuring. The teacher needs to prepare the practical in advance and if necessary try them out before the lesson. Learners should be given clear instructions before the lesson. These activities will help the child to learn social skills and respect others; start developing some concepts in science and skills which are vital for 'learning, understanding and appreciating' sciences as a subject in later years.

CONCLUSIONS

From the results of this research, the following conclusions were drawn:

It can be developed science process skills and some of accompanying skills through observation life cycle of the silkworm by kindergarten child. Science process skills of children differ according to maturity. Thus in addition, teaching science using traditional methods, children should be involved in own investigations in the science. Science is largely a doing subject and children Know more of what they do than what they hear. They need see touch, smell and do as much as possible of their own investigations. They are unable to think through ideas and therefore hands on activities and first hand experiences make learning better for them. The teacher should give each child a chance to contribute to learning.

Recommendations

The researcher recommends the following based on the findings and conclusions:
Children's process skills along experimenting, observing and communicating should further be developed through varied science Activities and projects. Other process skills should also be enhanced and mastered. School administrators and kindergarten teachers should plan and initiate science-related activities to enhance science process skills development among children. Enhance teaching skills of kindergarten teachers by conducting in – service trainings or sending them to seminars, workshops or lectures. Similar studies can be conducted with a greater number of schools to verify the findings of the research. Other science process skills and factors encountered Children's in developing science process skills can also be included if necessary. Administrators and kindergarten teachers should work for higher children's proficiency by continuously studying and enriching the science curriculum programs to cater to the development of the science process skills of the children Kindergarten teachers should develop a deeper interest and love in teaching science so as to give the children what is expected of them, they should master what they teach .similar studies can be conducted to develop the generalization skill, cause and effect skill, analysis skill, conclusion skill and cooperation skill by kindergarten child.

Research Proposals

Through the research results we can suggest the following research:

1. The effect of program based on investigation of scientific phenomena on thinking patterns of kindergarten children.

2. The effect of program based on investigation of scientific phenomena in developing parents' attitudes toward science education at home.
3. Some factors affecting the use of science process skills by Kindergarten children.
4. Science process skills knowledge and attitude among kindergarten Teachers in Alexandria city: a pilot study.

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