

# The Effect of Hands-On Minds-On Learning on Developing Kindergarteners' English Language Performance

By

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**Abstract:** This study aimed at investigating the effect of a hands-on minds-on learning activities-based program on the development of the English language performance of kindergarteners. It tried to fill in the gap of research that applied hands-on minds-on learning mostly to other fields than foreign language and to older graders than kindergarteners. The participants of the study were 32 kindergarteners of the second stage. Two classes were randomly drawn from Engineer Mohamed Fawzy Distinctive Language Formal School (Cairo, Egypt) during the second term of the school year 2019-2020. One classroom represented the control group (16 children), while the other classroom represented the experimental group (16 children). The control group was exposed to the traditional way of instruction that was teacher-centered, while the experimental group was exposed to the hands-on minds-on learning activities-based program which was created by the researcher. The instrument of the study was the English Language Performance test that was administered before and after the program. The pre-administration measured the equivalence of both the control and experimental groups in their English language performance. The post-administration measured the development of their English language performance. Differences in the mean scores between the ELP pre and post-test were analyzed by using the two-tailed T-test, The results revealed that the hands-on minds-on learning activities-based program was effective for the development of the English language performance of KG2 children.

**Keywords:** Kindergarteners, Hands-On Minds-On Learning, English Language Performance, Egypt

## 1. Introduction

In a world that is characterized by an increase use of technology and computer games, children have been observed sitting using technological devices without using their motor skills. Bailey (2016) assured that children especially in their first six years of their life need to be stimulated through their senses and get engaged in

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**Physical movement in order to help the brain to grow.**

Sumil (2016) assured that children learn more by not being told but by doing things themselves. Cleaver (2015) stated that the best way to keep children's minds active in the learning process is to move their hands and use their minds. Hands-on minds-on activities address the different learning styles of the learners, engage the hands and activate the mind (Herrmann, 2014).

In an attempt to determine some of the problems that encountered the second phase of kindergarten children in learning English in formal English language schools, the researcher conducted a pilot study. The pilot study included a questionnaire administered to experts and English teachers of KG2 children, an English language performance test, and a content analysis of their English school book and a visit to a KG2 class.

Concerning the results of the pilot study, the content analysis showed that the school book of KG2 extremely stressed on writing and reading, but rarely focused on listening and speaking. The results of the questionnaire revealed that KG2 children were not engaged in doing any hands-on minds-on activities except for drawing and playing with clay to form letter shapes for only short intervals of time. It also showed a positive response from teachers and experts towards applying hands-on minds-on activities for developing KG2 children's English language and creative skills.

Regarding the results of the performance test, a sample of (43) KG2 children were assessed in their English language performance and creative skills at Suez Formal English Language School. The results revealed that 26 children out of 43 with a percentage of 60% obtained low marks and they showed that KG2 children faced problems in their language and creative skills as follows:

1. Decoding words and matching them with their corresponding pictures.
2. Determining rhymed words.
3. Recognizing CVC patterned words.
4. Writing the missing letter in words.
5. Giving one-word or two-word responses.
6. Drawing and coloring according to what was required.

The results attributed to the class visit revealed that the method of teaching English was conventional, teacher-based, and did not consider the different learning styles of the learners.

Therefore, the researcher thought of preparing a program based on the use of hands-on minds-on learning activities in order to help KG2 children to develop their English language performance.

### **1.1. Problem of the Study**

Kindergarten children of the second phase (KG2) had many problems in having their English language performance developed in terms of listening readiness skills, reading readiness skills, word recognition, writing readiness skills and speaking readiness skills. They had problems in relating letters to their sounds, sounding out letters, blending sounds and decoding words, determining rhymed words, and syllables, filling in missing letters in words, and answering questions as revealed in the pilot study.

The study tried to answer the following question:

*How far is using a hands-on minds-on learning activities-based program effective in the development of English language performance of KG2 children?*

Some sub-questions were also derived:

1. What are the elements of a hands-on minds-on learning activities-based program that may develop KG2 children's English language performance?
2. What are the sub-items of the English language performance of KG2 children?
3. What is the effect of a hands-on minds-on learning activities-based program on the development of KG2 children's English language performance?

### **1.2. Aim and Significance of the Study**

The study aims at developing KG2 children's English language performance. As for the significance, the study is significant for the following reasons:

1. Trying to fill in the gap of studies that applied hands-on minds-on learning to higher graders than kindergarteners and in the field of learning English as a foreign language rather than science and math.
2. Combining both hands-on learning and minds-on learning in contrast to many studies which adopted only hands-on learning.
3. Providing kindergarten teachers with a program based on hands-on minds-on learning activities to be used with KG2 in EFL classes.
4. Presenting the target English skills to KG2 children through concrete materials and tools, and addressing their various learning styles.

5. Providing KG2 English curriculum developers with a program based on hands-on minds-on learning activities which might be of use for future KG2 English school books.

6. Providing a relaxing and motivating environment to KG2 children while developing their English language performance.

### **1.3. Variables of the Study**

1. The independent variable is a hands-on minds-on learning activities-based program (HMLABP).

2. The dependent variable is the English language performance.

### **1.4. Delimitations of the Study**

1. Kindergarten children of the second stage (KG2) at Engineer Mohamed Fawzy Distinctive Language Formal School in Cairo, Egypt.

2. The second school term of the school year 2019-2020.

3. KG2 children's English language performance skills.

### **1.5. Instrument of the Study**

An English Language Performance Test (ELP Test) was designed and administered:

- before the HMLABP for measuring the equivalence of both the control and experimental groups in their level of the English language performance.

- after the HMLABP for measuring the development of the English language performance of both the control and experimental groups.

### **1.6. Hypotheses of the Study**

The null hypothesis was applied as there was a gap in the studies related to applying hands-on minds-on learning to kindergarteners and to EFL. The hypotheses were as follows:

1. There would be no statistically significant difference between the ELP post-test mean scores of the control group and the experimental one.

2. There would be no statistically significant difference between the mean scores of each of the sub-items of the ELP post-test of the control group and the experimental group.

### **1.7. Definition of Terms**

#### **Hands-on Minds-on Learning Activities**

Hands-on minds-on learning activities could be operationally defined as activities based on using the hands and mind for manipulating tools that change the abstract concepts of the language into concrete materials.

## **English Language Performance of KG2 Children**

English language performance could be operationally defined as the ability of KG2 children to understand and perform the sub-skills of English language performance in terms of listening readiness skills, reading readiness skills, word recognition, writing readiness skills and speaking readiness skills in concrete situations that rely on the use of manipulatives and tools.

## **2. Review of Literature and Related Studies**

### **2.1. Kindergarten Phase**

Kindergarten is the time when children can learn by exploring and examining what is in their environment. (Corzine, Davy, Spicer and Jones, 2018). It is essential to provide kindergarteners with motor activities which help with the physical development of kindergarteners (Trawick-Smith, 2014), and developing both sides of the brain (Ed, Church and Poole, 2016).

DeAngelis (2010) stressed the importance of creating a safe and warm environment for developing the social and emotional skills of kindergarteners and which helps with developing their academic level in later years (Shrier, 2014). Linguistically, children can learn best with concrete experiences, and they can develop good oral skills, pronunciation, and intonation (Curtain and Dahlberg, 2016).

The assessment techniques of kindergarteners should differ from those in later years, such as hands-on tasks and using manipulatives (Shaaban, 2001), besides, observations and task-based assessments (Emery, 2018).

### **2.2. Hands-On Minds-On Learning**

It is essential to help the children to be physically and mentally involved in the learning process (Ajaja, 2013). Hands-on learning engages the children in exploring with materials and learning by doing (Meyers, 2019). Minds-on learning evolved from hands-on learning. It focuses on reflection and thinking about what has been learned beyond hands-on tasks (Young, 2015).

Some researchers (e.g. Cleaver, 2015; Beety, 2017) advocated that hands-on learning is minds-on learning. Other researchers (e.g. Laurel, 2018; Trundle and Smith, 2017) stated that they are not the same, and it is not necessary that hands-on learning urges the learners to think, and thus minds-on learning does not occur.

### **2.3. English Language Performance**

Sandrock and Swender (2012) stated that language performance involves "the four skills (reading, writing, listening and speaking), vocabulary and functions that the learner can perform" (pp.8-9). It is very important that kindergarteners should be exposed to developing their language performance, as it is crucial for later success at school (The National Early Literacy Panel (NELP), 2008, as cited in Carmen, 2014).

One of the sub-items of listening readiness skills is phonological awareness which refers to words awareness, rhyme awareness, onset and rime, and syllable awareness. Another sub-item is phonemic awareness which refers to the awareness of the smallest units of sound in a spoken word, and thus, a learner can segment, blend and manipulate these units (Shin, 2016).

As regards the reading readiness skills, alphabet awareness is crucial for literacy development and for later reading ability. Holland (2017) assured that knowledge of letter names, sounds and symbols of letters are essential for learning to read and write. When it comes to the relationship between the letters in their written forms and their sounds, the alphabetic principle becomes essential for identifying this relationship, and here comes the importance of phonics (Huang, Tortorelli and Invernizzi, 2014).

A third sub-item of English language performance is word recognition which can be achieved either by decoding or by recognizing the words as wholes, such as sight words (Dillon, Jong and Pisoni, 2011). A fourth sub-item is writing readiness skills. Kindergarteners are capable of writing upper case and lower case letters, and numbers (Parr, 2017), besides connecting the dots and drawing which reflects the foundation for writing performance (Cartwright, 2019). In addition, they can express some knowledge of the phoneme-grapheme relationship by writing and being dictated CVC and simple common words (Parr, 2017).

A fifth sub-item, which is the speaking readiness skills, is fundamental in kindergarten as it is the pivotal phase for speaking and oral language development (Hollowell, 2017). Despite being difficult for young learners who are learning a foreign language (Hosni, 2014), kindergarteners can practice pronunciation or repetition (Teflpedia, 2018), besides giving short responses, such as one-word responses to Yes/No questions, or short phrases to open questions (Ulyatt, 2017).

### **3. Method and Procedures**

#### **3.1. Design and Context of the Study**

This study was a quasi-experimental design. It included two groups: a control group (16 children) and an experimental one (16 children). The two groups were randomly drawn from the second phase of kindergarten (KG2) at Engineer Mohamed Fawzy Distinctive Language Formal School. The experiment took 51 days during the second term of the school year 2019-2020.

#### **3.2. Participants of the Study**

The participants of the study, (32 children), were randomly drawn from two classes of the second phase of kindergarten (KG2) during the second term of the school year 2019-2020. The children's age ranged between (5-6) years old. The researcher chose one classroom to represent the control group (16 children), and another classroom to represent the experimental group (16 children).

The researcher applied the hands-on minds-on learning activities-based Program (HMLABP) to the experimental group for developing their English language performance while the control group was exposed to the traditional instruction which was lecture-based, teacher-centered, and which neither considered the different learning styles of the learners nor engaged them in using manipulatives or tools.

#### **3.3. Instructional Materials of the Study**

- Printed Materials: pictures downloaded from the internet, besides the English school set book Connect Plus of KG2 at formal schools.
- Technology-Based Materials: a PowerPoint program that was prepared by the researcher.

#### **3.4. Educational Aids and Resources of the Study**

The researcher used the English school set book (Connect Plus) of KG2 used at formal schools as a main resource, besides other books and researches (e.g. Popp, 2004; Huang et al., 2014).

As for the educational aids/tools, the researcher used the following:

- Hands-on aids: manipulatives (e.g. tokens, bottle caps, letter blocks, buttons), paperboard, and boxes.
- Visual aids: the white board, pictures, flash cards, and letter boxes.
- Audio-visual aids: the data show projector and Zoom Clouds Meeting application which was applied for continuing the program through live sessions due to Covid 19 pandemic where the researcher was keen on



maintaining the same procedures of the HMLABP strategy and methods used in class.

### **3.5. Procedures of the Study**

**3.5.1. Preparing the Instrument of the Study (The English Language Performance (ELP Test) which assessed the English language performance of KG2 children by assessing the following sub-items: listening readiness skills, reading readiness skills, word recognition, writing readiness skills and speaking readiness skills. It was pre and post administered the HMLABP.**

#### **3.5.1.1. Validity of the ELP Test**

In order to achieve face validity, the researcher submitted the ELP test to ten jurors who stressed the validity of the ELP test, and agreed that the questions covered all the target aims and goals of the HMLABP in terms of English language performance. In order to achieve content validity, the researcher also submitted the ELP test to ten jurors, who also assured that the sections of the test covered all the sub-items of the HMLABP,

#### **3.5.1.2. Reliability of the ELP Test**

Two methods were used as follows:

The Internal Consistency Method (Kuder-Richardson Formula 21) was used to calculate the reliability coefficient of the ELP test which was considered high (0.84). For achieving this, a pilot sample of 20 KG2 children, out of the sample of the study, was used.

Test Retest Reliability (Spearman's Rank Correlation Coefficient) was used to calculate the reliability coefficient of the ELP test which was considered high (0.82). A pilot sample of 20 KG2 children was also used for the test retest reliability by administering the ELP Test twice. The time between the two administrations was two weeks to ensure that the children would not remember their answers from the first administration. Since the correlation coefficients in both methods were close to 1, there was positive correlation, and thus, the ELP test was considered to be reliable. Afterwards, the ELP test was piloted out of the sample of the study to determine its suitability and the timing of each question.

#### **3.5.2. Preparing the Hands-on Minds-on Learning Activities Based-Program (HMLABP)**

Preparing the HMLABP underwent several criteria such as having a gradual development that moves from easy to difficult in introducing the target skills, sounds, target words and activities, the convenience of the program to the children's age, level, skills and



interests, besides the integration of the target skills. As regards the instructional approaches, both the direct and the indirect approaches were used.

#### **3.5.2.1. Intended Learning Outcomes (ILOs) of the HMLABP**

By the end of the proposed program, it was expected that the KG2 children of the experimental group would be able to:

##### **1. Develop the listening readiness skills of KG2 children:**

a. develop their phonological awareness skills (sentence segmentation, counting syllables, rhyme recognition and rhyme oddity).

b. develop their phonemic awareness skills (initial and final sound identification, sequences of phonemes recognition and sounds position recognition).

##### **2. Develop their reading readiness skills:**

a. foster the alphabet awareness or letter knowledge.

b. develop the phonics skills or recognize the alphabetic principle.

##### **3. Enhance their word recognition or use:**

a. identify receptive vocabulary.

b. decode CV, VC and CVC words.

c. recognize whole words, such as sight words.

##### **4. Develop their writing readiness skills:**

a. develop the writing performance foundations in terms of tracing and copying letters and numbers.

b. develop the emergent writing skills (phoneme-grapheme knowledge) in terms of completing words and being dictated.

##### **5. Develop their speaking readiness skills:**

a. pronounce and repeat sentences.

b. give one and two-word responses.

#### **3.5.2.2. Content of the HMLABP**

The HMLABP comprised the following elements: manipulation (hands-on learning), reflection (minds-on learning), development of the English language performance, and evaluation through diagnostic, formative and summative assessments. Its main components are:

A. The target skills: they involved the linguistic skills related to the sub-items of the English language performance, the motor skills related to the hands-on activities and the cognitive skills related to the minds-on activities.

B. The target words: they were 98 words which were based on 84 words that were derived from the school set book “Connect Plus” of KG2, and 14 ones out of the school set book to provide more opportunities.

**C. The target activities:** they involved hands-on minds-on activities, and English language performance activities.

**D. The sessions of the HMLABP:** they were formed by deciding on the time and place the target sounds, letters, words and skills, the objectives of the lessons, the target activities, teaching aids, materials, sources and the post-activities assessment.

**E. The strategy of the HMLABP:** it was divided into seven stages: the introduction stage, the demonstration stage, the hands-on stage, the minds-on stage, the modeling stage, the creativity stage and the evaluation stage.

**3.5.2.3. Validating the HMLABP**

The researcher submitted the HMLABP to a jury of ten experts in curriculum and TEFL/TESOL instruction, kindergarten, and English linguistics. They verified its validity.

**3.5.2.4. Piloting the HMLABP**

Some lessons and their activities were used with a pilot group of 20 KG2 children out of the sample of the study. Afterwards, the researcher took permission to apply the HMLABP to the target sample.

**3.5.3. Administering the ELP Test before HMLABP**

For testing the homogeneity of both groups, the F-Test was used. Since the calculated F-value (1.10) was smaller than the F-Test value ( $F = 2.40, p > 0.05$ ), the two groups were homogeneous in the ELP test.

For testing the equivalence of both groups, the two-tailed t-test was used. Since the calculated T-value (0.14) was smaller than the Two-tailed T- Test value ( $t = 2.04, p > 0.05$ ), both groups were equivalent in their English language performance. Afterwards, the ELP test was tested post the HMLABP.

**4. Results of the Study**

1. There was a statistically significant difference between the ELP post-test mean scores of the control group and the experimental group in favor of the experimental group. Thus, the first hypothesis was rejected.

**Table (1) The Two-Tailed t-Test for the Difference between the ELP Post-test Mean Scores of both the Control and Experimental Groups**

Group	Test	Mean	Standard Deviation	Standard Error	DF	T-Value
Control Group	ELP Post-Test	67.47	7.33	2.54	30	8.01
Experimental Group	ELP Post-Test	87.81	7.34			

2. There was a statistically significant difference between the mean scores of each of the sub-items of the ELP post-test of the control group and the experimental group in favor of the experimental group as shown in Tables (3, 4, 5, 6 and 7).

**Table 3. The Two-Tailed t-Test for the Difference between the Mean Scores of Sub-item 1 (listening readiness skills) of the ELP Post-test of both Groups**

Group	Sub-item	Mean	Standard Deviation	Standard Error	DF	T-Value
Control Group	Sub-item 1 (listening readiness skills)	13.03	2.80	0.75	30	7.55
Experimental Group	Sub-item 1 (listening readiness skills)	18.69	1.32			

**Table 4. The Two-Tailed t-Test for the Difference between the Mean Scores of Sub-item 2 of the ELP Post-test of both Groups**

Group	Sub-item	Mean	Standard Deviation	Standard Error	DF	T-Value
Control Group	Sub-item 2 (reading readiness skills)	17.84	2.78	0.88	30	4.60
Experimental Group	Sub-item 2 (reading readiness skills)	21.88	2.27			

**Table 5. The Two-Tailed t-Test for the Difference between the Mean Scores of Sub-item 3 (word recognition) of the ELP Post-test of both Groups**

Group	Sub-item	Mean	Standard Deviation	Standard Error	DF	T-Value
Control Group	Sub-item 3 (word recognition)	28.5	3.45	1.31	30	3.96
Experimental Group	Sub-item 3 (word recognition)	33.69	4.08			

**Table 6. The Two-Tailed t-Test for the Difference between the Mean Scores of Sub-item 4 (writing readiness skills) of the ELP Post-test of both Groups**

Group	Sub-item	Mean	Standard Deviation	Standard Error	DF	T-Value
Control Group	Sub-item 4 (writing readiness skills)	4.81	1.05	0.37	30	4.05
Experimental Group	Sub-item 4 (writing readiness skills)	6.31	1.09			

**Table 7. The Two-Tailed t-Test for the Difference between the Mean Scores of Sub-item 5 (speaking readiness skills) of the ELP Post-test of both Groups**

Group	Sub-item	Mean	Standard Deviation	Standard Error	DF	T-Value
Control Group	Sub-item 5 (speaking readiness skills)	5.72	1.18	0.39	30	3.92
Experimental Group	Sub-item 5 (speaking readiness skills)	7.25	1.41			

## 5. Discussion of the Results

There are several possible explanations for the aforementioned results which can be illustrated as follows:

1. The HMLABP engaged the children in using both their hands and minds stressing the argument of some researchers (e.g. Laurel, 2018; Trundle et al., 2017) that hands-on and minds-on leaning are not the same. The hands-on activities involved using the hands and using manipulatives and tools, whereas the minds-on activities involved reflecting on using them for developing the English language performance. The program addressed different learning styles and the children exerted an effort to learn.
2. The HMLABP provided a non-threatening environment as children were not afraid of making mistakes through using manipulatives (Senyefia, 2017).
3. The hands-on minds-on activities addressed the different learning styles of the children which might have helped in focusing and understanding the information more as was stated by (Clever, 2015; Owen, 2018).
4. Positive feedback was provided in learning even though mistakes occurred as was stated by Leong and Ahmadi (2016) and Ulyatt (2017).
5. The HMLABP was prepared according to certain criteria. For example, the skills and activities were suitable for the characteristics, level and age of KG2 children. The introduction of the target sounds,

words and skills of the HMLABP moved gradually as was advocated by many researchers (e.g. Carmen, 2014; Huang et al., 2014; Popp, 2004). Besides, the instrument of the study was relevant and manipulatives were used which might have helped in reducing the level of anxiety as was stated by (Bartsch, 2017).

## **6. Conclusions**

- 1. Hands-on minds-on learning has a positive effect on the development of the English Language Performance of KG2 children in EFL classes through using their hands and their minds.**
- 2. It is proved that hands-on minds-on learning activities are a suitable teaching method in EFL classes of kindergarten children as they address the different learning styles of the children and integrate the different skills.**
- 3. It is important to use motivating and interesting activities which engage KG2 children in using manipulatives which make the abstract concrete.**
- 4. Hands-on minds-on learning can be applied to kindergarteners in contrast to many studies (e.g. Ates and Eryilmaz, 2011, Ghosh, 2017) which applied it to higher grades as was stated by Meyers (2019).**
- 5. Hands-on minds-on learning can be applied to foreign language learning which is contrary to the limited number of studies (e.g. Goodwin College, 2018) that applied hands-on learning mostly without minds-on learning to English as a first language and not as a foreign language.**
- 6. The study also fills in the gap of research that applied hands-on minds-on learning only to math and science (e.g. Ates and Eryilmaz, 2011; Ghosh, 2017). Moreover, contrary to many studies that adopted hands-on approaches and have lacked minds-on learning as was stated by (Cloutier, Sherrod and Dwyer, 2016), this study, fills in the gap of the limited research on adopting minds-on learning besides hands-on learning,**
- 7. It is also necessary to present the target sounds, words and skills gradually to suit the characteristics and age of kindergartners. Besides, using both the direct and indirect approaches in EFL kindergarten classes has a positive effect.**

## **7. Recommendations**

- 1. Using manipulatives should be a part of the English curriculum of KG2 children in formal English language schools in Egypt.**

2. Using hands-on minds-on learning activities for developing English language performance should play a bigger part of the English curriculum presented to KG2 children in formal schools.
3. There should be more interest in varying the activities and making them motivating in the school set book “Connect Plus” of KG2 children of the English language in formal schools.
4. Presenting the activities and skills should be done gradually.
5. There should be more time allocated for kindergartners in EFL classes to use manipulatives to develop their English language skills.
6. It should be taken into consideration to provide more English courses tackling hands-on minds-on learning for teachers of teaching English to kindergartners.

### **8. Suggestions for Further Research**

1. It is recommended that more studies should be related to adopting hands-on minds-on learning in the field of foreign language learning with higher graders.
2. Applying hearts-on learning should be integrated with hands-on minds-on learning in EFL kindergarten classes.
3. A comparative study between the effects of applying hands-on learning, minds-on learning and hearts-on learning is recommended to be conducted in EFL kindergarten classes.
4. A study on the effect of hands-on minds-on learning on foreign language anxiety of kindergartners is recommended.
5. Conducting a study on the effects of using different kinds of assessment that are not paper-based in kindergarten is recommended.

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## تأثير التعلم بالأيدى و العقول على تنمية أداء اللغة الإنجليزية لدى أطفال الروضة

المستخلص: تهدف هذه الدراسة إلى التعرف على تأثير برنامج قائم على أنشطة التعلم بالأيدى و العقول على تطوير أداء اللغة الإنجليزية لأطفال الروضة، كما حاولت سد فجوة الدراسات التي طبقت التعلم بالأيدى و العقول في الغالب في مجالات أخرى غير اللغة الأجنبية ولطلاب الصفوف الأكبر سنًا من رياض الأطفال، وبلغ عدد المشاركين في الدراسة ٣٢ من اطفال المرحلة الثانية من الروضة، وقد تم اختيارهم عشوائياً من فصلين في مدرسة المهندس محمد فوزي الرسمية المميزة للغات (القاهرة، مصر) خلال الفصل الثاني من العام الدراسي ٢٠١٩-٢٠٢٠، وتم اختيار فصلًا واحدًا لتمثيل المجموعة الضابطة (١٦ طفلاً)، بينما مثل الفصل الثاني المجموعة التجريبية (١٦ طفلاً)، و قد تعرضت المجموعة الضابطة للطريقة التقليدية في التعليم التي كانت متمحورة حول المعلم ، بينما تعرضت المجموعة التجريبية لبرنامج قائم على أنشطة التعلم بالأيدى و العقول من إعداد الباحثة، و قد تمثلت أداة الدراسة في اختبار أداء اللغة الإنجليزية الذي تم إجراؤه قبل وبعد تطبيق البرنامج. و قد هدف الإجراء القبلى إلى قياس تكافؤ كل من المجموعتين الضابطة والتجريبية في أداء اللغة الإنجليزية. بينما هدف الإجراء البعدى إلى قياس تطور أدائهم في اللغة الإنجليزية، وتم تحليل الفروق في متوسط الدرجات بين اختبار أداء اللغة الإنجليزية القبلى والبعدى باستخدام اختبار ت ذو الاتجاهين ، وقد أظهرت النتائج أن البرنامج القائم على أنشطة التعلم بالأيدى و العقول كان فعالاً في تطوير أداء اللغة الإنجليزية لدى أطفال المرحلة الثانية من رياض الأطفال. الكلمات المفتاحية: أطفال الروضة فى مصر ، التعلم بالأيدى و العقول ، أداء اللغة الإنجليزية.