

## The Effect of Cognitive Strategies on EFL Iraqi Pupils' Literacy Development

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### Abstract

The current study aims to investigate the effect of cognitive strategies on EFL Iraqi pupils' literacy development and discover the development of pupils' literacy in reading comprehension. The study hypothesized that there is no statically significant difference between the mean scores of the experimental group and control group in the post 1 and post 2 literacy test, and there is no statically significant difference between the mean scores of the experimental group and control group in post 2 and post 3 literacy test. The current study sampled (60) fourth stage pupils selected from Al-Hikma preparatory school for Girls during the academic year (2021/2022). Both groups have been equalized in their age and the parents' educational achievement. The data collected from the results of the three posttests have been analyzed statistically using the T-test for paired samples to measure the pupil's literacy development in posttests. The results show a statistically significant difference in the mean scores of the experimental and control groups; this indicates that cognitive strategies are more effective than using the conventional method for literacy development. Finally, the study ends up with some conclusions, recommendations, and suggestions for further research.

**Keywords:** Concept of Cognitive Strategies, Literacy Development, Assessment Literacy.

### 1.1 Statement of Problem

Cognitive strategies is one of the most popular strategies used in reading help pupils to understand the meaning, expression of the target language and develop their own learning system. The main problems of this study are mainly : the pupils lack of interest in reading passages, low motivation to interact within classroom environment , the teachers inability to provide new educational strategies of teaching especially in the field of teaching reading passages.

In order to master reading skill, teachers as educators must use good strategies or methods in the teaching processes. One of the strategies and methods that the researchers use to gain a clearer picture of what pupils usually do when reading a foreign language is the cognitive strategies which is divided into practicing ,receiving and sending message,analyzing and reasoning and creating structure for input and output strategies (Oxford,1990).

One of the main problems with these strategies is the learning problem, i.e. what cognitive reading strategies do pupils often use to develop their reading comprehension?

## 1.2 Aims of the Study

The current study aims at:-

1. Finding out the effect of Cognitive Strategies on literacy of Iraqi EFL preparatory school pupils.
2. Finding out the development of pupils literacy in reading comprehension.

## 1.3 Hypotheses of the Study

The following null hypothesis are put forward in order to be verified:-

1. There is no statistically significant difference between the mean scores of the experimental group in post 1 and post 2 literacy test.
2. There is no statically significant difference between the mean scores of the experimental group in post 2 and post 3 literacy test.

## 1.4 Limits of the Study

This study is limited to EFL pupils (Girls) in Al-Hikma preparatory school during academic year (2021/2022).The sample of the study including (60) pupils in the fourth preparatory school .The experimental group was taught by using Cognitive Strategies and the control group was taught by conventional method.

## 1.5 Value of the Study

The value of the present study can be stated as in the following:

1. It helps EFL curricula designers and EFL methodologists to develop instructional teaching method and material.
2. It helps teachers by facilitating their roles as well as pupils by helping them to practice the structures and the rules of English quite easily and smoothly.

## 1.6 procedure of the study

The following steps will be used in this study in order to verify its hypotheses and to achieve its aims:

1. Selecting a sample of EFL at fourth preparatory school and dividing it into two groups, one of them as experimental group and the other as a control.
2. Teaching the experimental group by using (Cognitive strategies) while the control group is taught by using conventional strategies.

3. Both experimental group and control group are subjected to a pre-test and three posttests to find out the effect of using (Cognitive strategies) on the pupils literacy development.

4. Estimating the validity, reliability, discrimination power and difficulty level of the tests.

5. Presenting three posttests data and evaluating them using relevant statistical technique, as well as establishing the finding, conclusions, suggestions and recommendations.

### **1.7 Definitions of Basic Terms**

The researcher adopts the following definitions operationally:

#### **1.7.1 Effect**

It refers to a change that is caused in a pupil or a thing by another person or thing (Collins, 1987).

#### **1.7.2 Cognitive Strategies**

Cognitive strategies are more limited to specific learning tasks and they involve more direct manipulation of the learning material itself( Brown, 2007)

#### **1.7.3 Literacy Development**

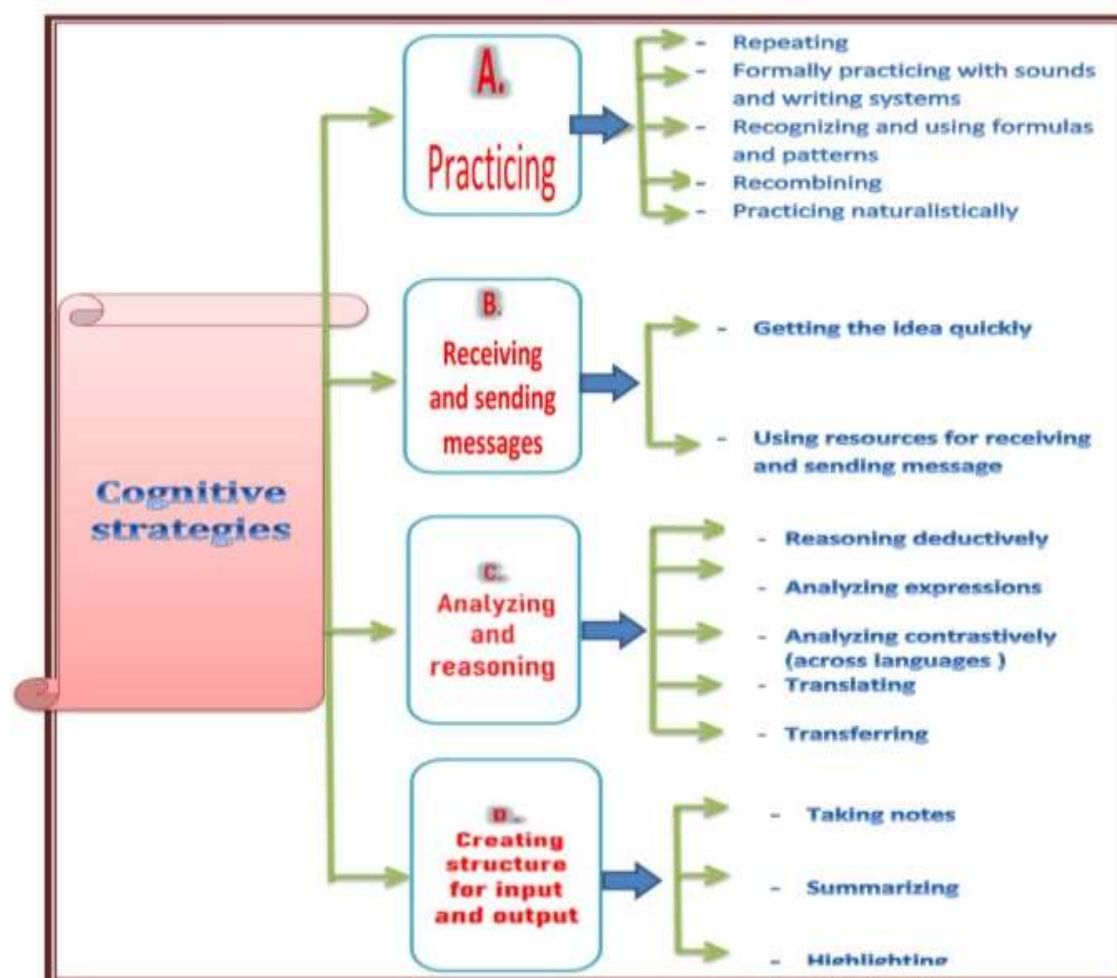
Literacy refers to the ability to read English texts with an appropriate level of fluency (Blake and Hanley 1995).

### **2.1 Concept of Cognitive Strategies**

Cognitive strategies are essential in learning a new language which enable pupils to understand and produce by using many different means and ranging from repeating to analyzing expressions to summarizing with all their variety. Cognitive strategies are unified by a common function: manipulation or transformation of the target language by the pupil. Cognitive strategies are practical for language pupil typically found to be the most popular strategies with language pupil. These strategies are practical for language pupil and link new information with existing knowledge. Cognitive strategies include four subdivisions as follows: practicing, receiving and sending messages, analyzing and reasoning, and creating structure for input and output Oxford (1990).

All pupils can get benefit from instruction in learning strategies such as work with group or pairs reinforce the notion that pupils who learn consciously monitor their own learning, and who have a storehouse of strategies to use when learning becomes difficult. When teaching a learning strategy, teachers should identify the strategy, explain its usefulness, demonstrate its use, give pupils practice in applying it to a learning situation, and show them how to evaluate its effectiveness and what to do if it does not work (Chamot and O'Malley, 1994).

Cognitive function works as the ability to perform cognitive processing tasks. cognitive function refers to the process whereby the capacity to make accurate categorizations is met with the ability to evaluate outcomes or make accurate decisions (McGuinness & Pribram, 1979).



### 2.3 Literacy Development

The concept of literacy has concerned in meaning with the cutting-edge times have been extended to encompass the potential to use language, numbers, images, computers, and different fundamental capacity to understand, communicate, gain beneficial knowledge. The literacy is increased to include skills that get admission to information through technology and ability to examine complicated context (UNESCO, 2008).

According to Chrisomalis (2009) the key to literacy is analyzing development, a development of capabilities which begins with the capability to apprehend spoken phrases and decode written words, and which culminates the deep appreciation of the text.

Experts at UNESCO (2018) have proposed literacy as the ability to identify, understand, interpret, create, communicate and compute, the usage of printed and written materials associated with varying context. The specialists note that literacy involves in continuum of studying in enabling people to

achieve their goals, to improve their knowledge and potential, and to participate utterly in their community and wider society.

Traditionally, literacy is the potential to use written language actively and passively; one definition of literacy is the potential to read write, spell, listen, and talk (Moats, 2000).

## **2.4 Stages of literacy Development**

There are stages of literacy development include vocabulary, fluency and comprehension. Each stage of literacy development helps the pupil move forward and become a stronger pupil.

### **2.4.1. Vocabulary**

Vocabulary development is the process of increasing the number of words which pupils uses in everyday life. Many pupils use dictionary and books to improve their vocabulary, and doing so can increase a pupil's ability to communicate through verbal or written language .Vocabulary is a core component in language proficiency and provides much of the basis for how pupils development literacy (Carr,2005).

Learning vocabulary is an important part of a pupil's development process, but vocabulary instruction can be a challenge for educators especially when it comes to making it successful and engaging. Teaching vocabulary in the classroom make it a challenge for pupils to learn, and teachers to well teach, vocabulary instruction do not have to be boring (Doff, 2011)

Vocabulary is a challenging component of language. It is learned and become an essential part of language learning for pupils which covers basic understanding in language use and reading skill . In addition, vocabulary is defined as meaningful words which seen, heard and produced in all kinds of communication (Brown, 2007).

### **2.4.2. Fluency**

Fluency is the ability of the pupils to recognize the word and understand the reading at the same time reading fluency is one of the important stages of a literacy development that influences pupils' reading comprehension through quick and accurate word recognition and meaningful ideas organization good reading fluency usually indicates as a high level of comprehension.(Macalister, 2014).

Ari ( 2015) states that reading fluency refers to a process by which most of the words in a text are recognized automatically and their meanings accessed efficacy.

### **2.4.3. Comprehension**

Comprehension is an active process that involves the pupil integration of prior knowledge with text information in order to comprehend that text. Among the major goals of reading instructions today is the development of literacy. Comprehension is as the process by which a pupil understands the meaning

of the written or spoken language, it means that pupil can understand the meaning of text through the process of reading seriously, and it can make him to be understood the meaning of the written or spoken language. (Richards, et al,1998).

Kennedy et al (2012) describe comprehension as the 'essence' of reading .While the importance of reading with 'meaning' and 'understanding'. Reading comprehension as the process of simultaneously extracting and constructing meaning through interaction and involvement in target language. It involves in the brain processes, which are largely invisible, and products things which are more visible, but teachers can scaffold readers to develop reading skill and strategies by depending on responsibility model. This is responsibility of the pupil where the teacher scaffolds the development of autonomy within the pupil, as the pupil takes responsibility for both activating and developing reading skill.

### **2.5 Assessment Literacy**

Assessment is considered one of the essential aspects of education. Its importance stems from its potential to generally influence educational success and better education quality (Black, 2011).

According to Earl (2003) states that assessment is one of the most important responsibilities of teachers in teaching and learning classroom it can further be classified into many types corresponding to the different purposes of assessment in the classroom. One classification includes assessment of learning, assessment for learning, and assessment as learning.

On the other hand, assessment for learning encompasses formative assessment and evaluation, which are used to support teaching and improve learning (Black & Wiliam, 1998).

### **3. Methodology and Procedures**

Experimental design is an experiment as a planed research which is contrived for obtaining new facts or getting answers or confirming or disproving the results of previous experiments. It helps a researcher to make inferences about some phenomena.(Kaps and Lamberson ,2009).

Osborn (2008) shows that a research should select a best experimental design and statistical model which fit the setting otherwise the outcomes would be misleading.

For the current study the experimental design which is used to fit the research demand is " experimental pretest posttests design" consequently the sample of the study contains two groups of fourth preparatory school pupils during academic year (2021/2022).The experimental design of the current study has been shown in table (3.1).

Table (3.1) The Experimental Design of the Study

Groups	Pre-test	Independent variable	Dependent variable	Posttest
Experimental group	Literacy Development	Direct Strategies	Development English Literacy	Literacy Development
Control group	Literacy Development	conventional Teaching Strategies	Development English Literacy	Literacy Development

### 3.2 Population and Sample of the Study

Best and Kahn (2006) mention that population is a group of pupils with at least one common characteristic that distinguishes the group from other pupils. Sampling means the procedure of selecting a sample, and they mention the several ways in which this selection can be made (Richards and Schmidt, 2010).

The target population of the present study includes (60), fourth-year pupils of Al- Hikma School for Girls in the city of Salah al din Government. The pupils are grouped into two sections: (A and B). Thus, (30) pupils have been selected from section (A) as an experimental group, and (30) pupils from section (B) represent the control group. Therefore, the total number of the involved sample is (60) who represent 41% percent of the original population.

### 3.2 Test Construction

Post test is used for measuring the pupils' reading skills at the end of experiment by analyzing the results that obtained from the test. So the researcher designs a test depending on the topic which has been chosen at the beginning of the study to show if there are statistically significant differences between the mean scores of the experimental group in three posttests . The post test consists of (5) questions, each question has a different elements from the others.

### 3.3 Face Validity

Mousavi (2009) states that face validity refers to in which degree a test looks right, and appears to measure the abilities or knowledge it demands to measure based on subjective judgment of testee who takes it, the administrative staff who decided on its use, and other "psychometrically unsophisticated observers". Validity is the most important criteria that determining the test quality.

### 3.4 Content Validity

Miller & Mc lintre ( 2007) state that content validity represents the extent to which the test items or questions are representative of the property being measured.

### **3.5 Reliability of the Posttests**

Reliable is an essential feature of a successful test. A test is said to be accurate if its level of accuracy remains constant and consistent each time it is administered to the same group of pupils under the same conditions (Veram and Beard, 1981). One of the necessary characteristics of a good test is reliability. Alpha-Cronbach formula is used to measure the reliability of the posttests. The coefficient is found to be (0.85), which is considered acceptable.

### **3.6 Pilot Study**

A pilot study is a "small feasibility study" which is designed for testing various aspects of strategies determined for more accurate and confirm investigation. (Arian et al., 2010)

In the current study, the researcher has conducted a test which has been applied on fifteen pupils who are selected randomly from the two groups (control and experimental). The results show that the time needed to answer all questions items between 45-50 minutes and there isn't any ambiguity in the test instructions.

Abu Hassan et al. (2006) define pilot study as a small study aims to examine the protocols of the research, the instrument of data collection and other research techniques for planning to larger study.

### **3.7 Item Analysis**

Item analysis is a process of analyzing the testees' responses in order to find out the difficulty level and discriminating power of each item included in the test as follows:

#### **3.7.1 Difficulty Level**

The difficulty level is specified as the ratio of the pupils who answer test items correctly (Rosas, 2000).

Item difficulty refers to the extent to which an item appears to be complicated or facilitated for a given number of tests. It reflects the percentage of pupils who respond correctly to the test. The most suitable test item will have item difficulty varying between (0.15) and (0.85) (Brown, 2010).

According to the table (3.11) the DL of the present test items varies from (0.28) to (0.70).

#### **3.7.2 Discrimination Power**

Discrimination power means calculating the degree to which a particular item's results correspond with the results of the entire test (Alderson, 1995). This means that an object is deemed to have weak power of discrimination if it is correctly scored by high-skilled pupils as well as low-skilled pupils.

Item discrimination refers to the degree to which an object makes a difference between good and poor testees. An object has good power of discrimination if it collects the right answers and the wrong answers. It is worth noting that the high power of discrimination will be close to (1.0) and no power of

discrimination will be nil at all (Brown, 2010). The test item DP is found to have a range of (0.29) - (0.71).

#### 4. Analysis of Data and Discussion of Results

##### 4.1 Results Related to the First Hypothesis

To find the difference between the mean scores of the experimental group in post 1 and post 2 literacy test, t- test for paired sample is employed to determine whether there is a statistically significant difference between the two tests. As seen in table (4.1) below.

Table (4.1) The mean scores of Experimental Group in Post 1 and post 2 literacy test

Groups	No. of students	Mean	S.D	Computed T-value	Tabulated T-value	D.F	L.S
Experimental in post 1	30	74.20	9.46	8.74	2.00	29	0.05
Experimental in post 2	30	76.53	11.02				

The table (4.1) shows that the calculated t- value is (8.74) that is higher than the tabulated t-value (2.00) at the (0.05) level of significance and (29) degree of freedom. This indicates that there are significant differences between the mean scores of pupils in post 1 and post 2 literacy tests.

These results indicate that pupils in the experimental group in the second posttest have the highest mean score than the first posttest. So, the second hypothesis which states that, "There is no statistically significant difference between the mean scores of the experimental group in post 1 and post 2 literacy tests" is also refuted.

##### 4.2 Results Related to the Second Hypothesis

To find the difference between the mean scores of the experimental group in post 2 and post 3 literacy tests, t- test for paired sample is employed to determine whether there is a statistically significant difference between them. As seen in table (4.2) below.

Table (4.2) The mean scores of Experimental Group in Post 2 and post 3 literacy tests

Groups	No. of students	Mean	S.D	Computed T-value	Tabulated T-value	D.F	L.S
Experimental in post 2	30	75.53	11.02	9.42	2.00	29	0.05
Experimental in post 3	30	78.06	13.18				

The table (4.2) shows that the calculated t- value is(9.42) which is higher than the tabulated t-value (2.00) at the (0.05) level of significance and (29) degree of freedom. This indicates that there are significant differences between the mean scores of pupils in post 2 and post 3 literacy tests.

These results indicate that pupils in the experimental group in the third posttest have the highest mean score than the second posttest. So. The second hypothesis which states that "There is no statically significant difference between the mean scores of the experimental group in post 2 and post 3 literacy test" is also refuted.

#### 4.3 Discussion of the Obtained Results

According to the obtained results of the test, in relation to the preparatory pupils in the scientific branch, it has been noticed that literacy development through cognitive strategies influence the experimental group; that the calculated t-value which is found to be higher than the tabulated t-value. Because the experimental group exposed to modern technology tools that have an important effect on developing literacy pupils .The cognitive strategies enable the pupils' understanding ,analyzing and creating new ideas. Within these strategies the pupils being able to take ideas and objects, looking carefully at the various components and then stored that ideas. cognitive strategies was very effective in teaching English for EFL pupils in favour of the conventional teaching strategies . Results of the current study also indicate that cognitive strategies played the same role of efficiency on pupils' development at understanding levels.All findings of the present study demonstrate the positive impact of Cognitive Strategies on EFL Iraqi pupils literacy development .

1- The variety of instructional material which is prepared by using technology tools is based on practicing and exchanging ideas in problem- solving.

2. The cognitive strategies give the pupils a chance for comrehened information in of the arranged pictures which are in different color and shapes.

3.Both pupils and instructors can see the benefits of pupils participation, as pupils' thoughtful participation is essential to their own learning since they gain higher grades as their participation increase.

4.All findings of the present study demonstrate the positive impact of the dynamic posttests on pupils literacy development.

5.Applying cognitive strategies as a tool support pupils in consistent knowledge.

## **5. Conclusions**

According to the obtained results of this study there are some points that can be concluded as the following:

1. The pupils performance in the experimental group more than in the control group which refers to the influential role of cognitive strategies that reinforces the ability of pupils on creation and connection their ideas with what they have studied and learnt before.

2. Using cognitive strategies increases pupils' interest and attention by enhancing their curiosity and to expand their own experience.

3. It helps the EFL preparatory school pupils to improve and develop their understanding in comprehending a reading text.

4.The cognitive strategies supports the cooperative spirit between pupils by making them sharing their ideas and gives them a chance to complete and develop ideas of each other.

5. Cognitive strategies are considered as an excellent strategies to arrange pupils' thoughts and overcome some of the problem of vocabulary ,comprehension and fluency.

6. By using cognitive strategies technique pupils can retain their information more easily because it provides them with general outlines for the passage.

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