Developing Preparatory School Pupils' EFL Reading Skills through Generative Learning

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أستاذ المناهج وطرق تدريس اللغة الانجليزية المتفرغ

أستاذ المناهج وطرق تدريس اللغة الانجليزية المساعد

كلية التربية ـ جامعة المنوفية

كلية التربية ـ جامعة المنوفية

هدفت الدراسة الحالية إلى التحقق من أثر استخدام نموذج التعلم التوليدي فى تنمية بعض مهارات القراءة باللغة الإنجليزية لدى تلاميذ المرحلة الإعدادية. واشتملت عينة الدراسة على ٦٨ تلميذا من تلاميذ مدرسة الشهيد محمود السيد الإعدادية احدى مدارس إدارةالباجورالتعليمية بالمنوفية، خلال الفصل الدراسي الثاني للعام الدراسي ٢٠١٩-٢٠٢٠، وتم تقسيم العينة إلى مجموعتين : تجريبية (٣٤)تلميذا وضابطة (٣٤) تلميذا . ولقد قام الباحث بإعداد إختبار لقياس مهارات القراءة تم تطبيقه قبليا على مجموعتى الدراسة . وبعد التدريس للمجموعة التجريبية باستخدام نموذج التعلم التوليدي والمجموعة الضابطة باستخدام الطريقة المعتادة فى تدريس مهارات القراءة .تم تطبيق الاختبار بعديا على مجموعتى الدراسة ولقد أظهرت النتائج ان استخدام نموذج التعلم التوليدي له تأثير ايجابي علي تنمية مهارات القراءه لدي تلاميذ الصف الثاني الاعدادي , ولقد جاءت النتائج مؤكده ومدعمه للفروض. وهذا يعكس اثر النموذج على تنمية مهارات القراءة لدى افراد المجموعة التجريبية ويجذب انتباه المعلمين وواضعي المناهج لاهمية نموذج التعلم التوليدي

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ABSTRACT

The current ¬study investigated the effect of Using GLM to develop Preparatory Stage Pupils' EFL Reading Skills. The participants of the study comprised 68 pupils randomized from second-year preparatory pupils at Alshahid Mahmoud Elsayed prep school, Elbagour, Menoufia governorate during the second semester of the 2019– 2020 scholastic year. They were divided into two groups; experimental (34) and control (34). The Generative learning Model was used in teaching the experimental group while the control group received regular instruction. The study adopted the quasi-experimental pre-posttest design. A pre-posttest reading skills test was prepared by the researcher and administered before and after the treatment. The findings revealed that using Generative Learning Model had a positive effect on developing EFL prep stage pupils' reading skills. Hence, the results seemed to provide adequate evidence to support the hypotheses. The progress occurred in the pupils' reading skills was due to GLM. It is recommended that teachers and curriculum designers pay attention to the importance of Generative learning Model in EFL teaching and learning.

Key words: Generative learning Model, Reading skills, prep pupils.

1.1. Introduction

Reading is one of EFL language skills: reading, writing, listening and speaking. Moreover, it affects all aspects of people's lives: academically, socially, economically, and psychologically. Reading is the most important skill a person can acquire. Reading is a very crucial skill for learning. It is hardly to imagine learning process without reading. It is also the barrier between one`s being literate and illiterate. For example, the person who does not have the listening skill is not called illiterate but the person who does not have the reading skill or cannot read is called illiterate.

Although it is important, prep pupils encounter difficulties including: scanning, guessing the meaning of unfamiliar words, skimming, paraphrase, differentiating between facts and opinions, drawing inferences, detecting the main idea, making predictions, and drawing conclusions. There are several studies that document this e.g. Haboush (2010); Al-Nifayee (2010); Helwa (2014).

There are various approaches and models to develop EFL reading skills. One of these is Generative Learning Model. The term GLM, first introduced by Osborne & Wittrock (1985), refers to a model in which the instructor gives learners a prompt or series of prompts to perform activities that require the active generation of a) meaningful connections between new information and prior knowledge and b) meaningful relations amongst newly learned concepts (Wittrock, 1991). According to Wittrock 1990 & 1991, it is a teaching approach that combines strategies in an attempt to help students become active and responsible for constructing meaning from class activities by building relations.

The model conceptualizes learning as the interplay between four components: motivational processes, learning processes, knowledge creation processes, and generation processes through subject-matter concepts and then between the subject matter and students' existing knowledge (Wittrock, Clark, & Peterson, 1990; Wittrock, 1991) The theory is basically based on four elements; recall, integration, organization and elaboration. Meaningful learning according to Wittrock is the result of complex neural processes where learners create meaningful relations between new and prior knowledge and amongst related concepts.

Since drawing this type of connections requires more than just remembering, the application of the GLM helps learners not only to

remember and comprehend but also use newly learned information for application and reasoning (Wittrock, 1992). The generative process, as conceived by Wittrock (1991) and Wittrock and Alesandrini (1990) is to construct two types of relations: among the parts of the text presented (e.g., learners should compose new words, sentences, paragraphs and large units of the reading passage), and between the learners' knowledge and experience. Each type of relations requires different types of learning and teaching strategies. The instructor's role is to help learners draw relations and generate meaningful connections. Accordingly, reading comprehension depends on what learners generate and do during instructions.

1.2. Statement of the problem

Based on the results of the pilot study, it was evident that preparatory pupils have difficulty in reading skills. They lack the various sub-skills of reading namely skimming to get the main idea, scanning to find specific information, guessing the meaning of unfamiliar words from text, drawing inferences, differentiating between facts and opinions, and drawing conclusions. That is why the current study attempted to help EFL preparatory stage pupils develop their reading skills by using Generative learning model GLM.

1.3.Aim of the Study

The current study aims at developing 2nd year preparatory pupils' EFL reading skills through using GLM.

1.4. Questions of the Study

The present study attempted to answer the following main question: What is the effectiveness of using Generative Learning Model in developing some EFL reading skills of preparatory stage pupils?

Out of this main question, the following sub questions are stated:

1. What is the effectiveness of GLM in developing pupils' overall EFL reading skills?
2. What is the effectiveness of GLM in developing each of the reading sub skills among prep stage pupils?

1.5. Hypotheses of the Study

The researcher formulated the following hypotheses:

1. There is a statistically significant difference at the 0. 05 level between the mean scores of the experimental group and those of the control

group on overall reading skills in favor of the experimental group.

2. There is a statistically significant difference at the 0. 05 level between the mean scores of the experimental group and those of the control group on each of reading sub skills.

1.6. Definition of terms

- **Generative Learning Model**

In this study, the generative teaching model is a model of teaching and learning that can be implemented in three stages: before reading, while reading, and after reading to help 2nd prep pupils develop their reading skills.

- **Reading skills:**

This term is used in this study to refer to some reading skills, the proposed model ought to develop among second year preparatory pupils. These skills include:" skimming to get the main idea, scanning to find specific information, guessing the meaning of unfamiliar words, drawing inferences, differentiating between facts and opinions, and drawing conclusions".

2. Review of Literature

2. 1.1. Definition and importance of Reading:

There are various definitions of reading. From such definitions, it is clear that the concept of reading as a cognitive process of understanding a written linguistic text is a means of language acquisition, of communication, and of sharing information and ideas. It is a complex process which includes many processes not only one.

Reading is important and beneficial. Some of these benefits are related to the   strong correlation between reading and academic success. Also, reading develops a person's creativity. Unlike movies where everything is determined by the producer, writer and director, books allow students to create in their minds how a particular character looks like or imagine how a scene plays out. Reading a book therefore, allows a student to exercise and cultivate ones' creative thinking skills (Rabel, 2005). Furthermore, Abo Shamllah (2009) pointed out that the most essential skill needed to acquire knowledge is reading. It develops critical thinking and increases students' ability to concentrate. It also increases the pleasure and effectiveness in life.

2.1.2.Stages and strategies of reading

There are three stages: before, during, and post-reading stages. These stages are dealt with as follows:

(1) Before reading

These strategies are used to activate students' background knowledge and connect what they already know with what they are learning. They help students identify the structure and the organization of ideas in the text (D'Arcangelo:2002).

(2) During reading strategies

In this stage students are allowed to monitor their comprehension and keep moving forward through their reading. To assist students during reading, students can complete graphic organizers, make marginal notes, and draw pictures.

(3) Post-reading strategies

During this stage students interpret, analyze and deepen their understanding. Students can solidify and remember the ideas presented in the text (Pesa and Somers, 2007).

Moreover, De Corte et al., (2001) presented four specific reading comprehension strategies as a series of steps in the following sequence: activating prior knowledge, clarifying difficult words, making a schematic representation of the text, and formulating the main idea. Scharlach (2008) also identified the following eight comprehension strategies: Predicting/ inferring, visualizing, making connections, questioning, determining main idea, summarizing, checking predictions, and making judgments.

2. 1.3. Classifications of reading levels

Some attempts have been devoted to determine the levels or strands of reading comprehension. Most of these classified reading comprehension levels into three main headings. These levels are 1) literal reading comprehension. 2) Inferential reading comprehension, and 3) critical reading comprehension. The literal comprehension skills refer to the ability to understand what is stated by a writer. The inferential comprehension skills refer to the ability to go beyond what is started directly to understand what the writer means. The critical reading skills refer to the ability to make a judgment about the ideas and information.

In the Egyptian context, some researchers categorized reading

comprehension skills under the same three levels: literal reading comprehension, inferential reading comprehension, and critical reading comprehension. Reading comprehension involves many classifications. Most of these classifications classified reading comprehension skills into three main headings. They were: literal comprehension skills, inferential reading comprehension skills and critical reading comprehension skills.

2.1.4. Assessment of EFL reading skills

The assessment of reading is difficult because it is not an overt process that can be directly observed (Fletcher, 2006, 324). Meisinger et al. (2010, p.56) stated that reading is assessed through a variety of formal methods ; including question answering, passage recall or retell, and close tasks. Comprehension may also be assessed informally through discussions, completion of a graphic organizer, or through writing activity. The text that that the student is asked to read as part of comprehension assessment, situational variables for the student, and activity used to assess comprehension all might affect the assessment. For example, if a reader has difficulty in decoding or reading fluency, he or she may have difficulty comprehending the text. Lastly, how a reader is expected to demonstrate his or her understanding is important. For example, a reader write an essay, select a picture, complete a multiple choice text, retell, or apply information learned in a text to complete a task.   Wolllley (2011) stated that assessment should be dynamic; teachers should be using multiple sampling techniques to develop a boarder understanding of a student 'engagement with reading

2.2.Generative Learning Model

2.2.1. Background

The essence of the generative learning model is that the mind, or the brain, is "not a passive consumer of information. Instead, it actively constructs its own interpretations of information and draws inferences from them" (Wittrock, l99l: 348). Learning involves mental activity – thinking.

Learning is generative in nature; that is, the model of generative learning explains the relation-ships between the learner and the information being comprehended and describes the process by which one relates new information to existing knowledge (Wittrock, 1985). This model promotes instructional activities as being learner-centered, and asserts the learner as an active, not passive, participant in the learning process (Grabowski, 2008). Generative learning strategies for processing a text include a variety of

methods. Prior research has supported the notion that generative learning techniques such as underlining, note taking, paraphrasing, summarizing key ideas, generating questions, and making inferences and predictions from the text improve reading comprehension and understanding (Barab, Young, & Wang, 1999; Hirshman & Bjork, 1988). These strategies range from simple mnemonic tasks for recall to more elaborate strategies that result in deeper cognitive processing, which in turn leads to more meaningful learning (Cermak & Craik, 1979; Craik & Lockhart, 1972).

The basic contribution of the generative teaching model is that comprehension depends directly on what students generate and do during instruction. Teaching for understanding is the generative process of building two types of relations (l) among the parts of the reading text and (2) between student knowledge, belief, and experience, and the subject matter taught in schools (Wittrock, l99l; l992; l993 and Wittrock, and Alesandrini, l990). Each type of these relations requires different types of learning and teaching strategies.

The model suggests that generative learning is an active process. It is the process of constructing links between new and old knowledge. It also encompasses a personal understanding of how new ideas fit into an individual's web of known concepts.

The generative model for the teaching of reading comprehension
2. 2.2. Components of the model

Wittrock (l985; l99l) stated that research conducted between l974 and l990 has shown that successful teaching of the generative processes of learning involves attending to four factors: (l) Students' preconceptions, knowledge, and perceptions; (2) motivation; (3) attention; and (4) generation. It has been found that teaching that attends to these factors usually enhances reading comprehension by an average of 25%-50% with no instructional time increment, or administration, and without the use of complicated or expensive materials (Wittrock, and Alesandrini, l990). The following is a detailed discussion of these components.

a) Knowledge, preconceptions, and perceptions.

Awareness of students' roles in learning with understanding and their preconceptions about reading comprehension is critical to raising achievement in schools. Research has shown that learners' inadequate models of metacognitive processes and learning strategies of reading comprehension heavily influenced students' achievement (Wittrock, l99l). To change students' models of reading comprehension, the teacher must often raise the awareness of his/her students in their role of learning − from one of memorizing information to one of generating understanding by relating information presented in class to their experience and knowledge base. This is consistent with a huge bulk of literature on the role of schema in reading comprehension.

Students' perceptions have another important role in their learning, particularly for the less skilled readers. The way students think of their teachers' expectation also influences classroom learning. By implication, teachers should do the following before teaching reading:

1. Teachers must understand students' perceptions of their own roles of learning.
2. If students still believe that their effort in learning will vanish, teachers need to change these perceptions.
3. Teachers must teach students how to actively generate relations (among part of the reading text and between these generated relations and his/her knowledge and experience) and show them that their efforts produce tangible improvements.
4. Teachers must show students that they are sensitive to them and they will recognize and reward their attempts of generating understanding.

b) Motivation.

Learners who believe in themselves and attribute their success to their efforts will maintain motivation and a feeling of self-efficacy. Rewards given by teachers, like grades, reinforce learners, particularly, when they attribute them to their efforts. Motivation in the generative model significantly emphasizes the personal attributions of learners' success and failure in reading. When students attribute failure in reading, for example, to factors outside their control, teachers can carefully choose and assign simpler texts that students can comprehend if they use generative comprehension strategies. Teachers can give students direct instruction in the

use of these strategies for reading. Students can then apply these strategies as they read for comprehension; the teachers can demonstrate the direct relations between students' use of the strategies and their improved ability to read with understanding (Wittrock, l99l).

c) Attention

Attention has been given particular importance in attending to the underlying structure of the information presented in the text. Teachers can attract the attention of their students by raising questions to direct their attention towards acertain piece of information. Praise, also, plays a vital role in directing the students' attention towards the teacher's objectives and intentions. Kobayashi (2002) supported this notion. The results indicated that the text organization and text format have significant impacts on the students' performance. When texts were clearly structured, the more proficient students achieved better results in summary writing and open ended questions. By contrast, the structure of the text made little difference to the performance of the less proficient students. This result suggests that well-structured texts make it easier to differentiate between students with different levels of text structure and test format on student's results.

Teachers must teach students to monitor and evaluate their processes of learning. Learning is constructing meanings for instruction and subject matter. The teacher should teach his/her students to self-talk on their purpose of reading, their new learning role − constructing two specific types of information and to control and evaluate this new role of learning. Before reading, the teacher should ask his/her students to establish their purpose of reading. "My purpose is to comprehend a reading text." During reading, he/she should ask students to promote their awareness of their new role of learning.

d) Generation.

To comprehend texts, students should be taught to invent new models and explanations or use or revise old models and explanations to organize new information into coherent wholes that make sense to them. Generation includes the processes of relating ideas presented in class or text and relating instruction to the students' knowledge and experience.

By implication, the teacher teaches students to attend to and relate their models, preconceptions, learning strategies, attitudes, and beliefs to the

reading topic. The teacher, then, should design instruction that will enable his/her students to generate relations among subject-matter concepts and between their models, or their knowledge and subject; Next, s/he should encourage and train his/her students to use metacognitive or self-control strategies useful for directing their own cognitive and affective thought processes (Wittrock, l985:l23). Al-Qatawneh & Alodwan (2010) examined the effect of using GLM in enhancing reading comprehension skills and stimulating strategy awareness in English of the Jordanian secondary school students. The study involved two measures, a reading comprehension test and a reading strategy awareness questionnaire. Results showed that there was a statistically significant difference between the mean scores of the two groups on the reading comprehension test and on the strategy awareness questionnaire.

2.2.3. Key Concepts of Generative Learning Model

The Generative Learning Model involves four key concepts that instructional designers can involve (all four of them or just one) depending on the needs of the learner and the learning materials involved (Grabowski, 2008 ;Salh2009).

These key concepts are dealt with as follows:

1) **Recall** occurs when the learner accesses information stored in his long term memory. The primary goal is to encourage learners to learn the content that is based upon facts by using information they have already acquired. Examples of recall techniques might be having the learner repeat information or reviewing it until the concept is fully grasped.

2) **Integration** involves the learner integrating new information with knowledge already collected and stored. The aim is to alter this information into a form, which the learner can more easily remember and access later on. Examples of an integration activity might be having the learner paraphrase the content or creating analogies to explain a concept.

3) **Organization** involves learners linking knowledge they've already collected to new concepts in an effective way. Examples of organization strategies may include creating lists or analyzing the main points of a specific concept.

4) **Elaboration** involves the encouragement of the learner to connect and add new concepts to information that they've already collected, by analyzing the ideas. Examples of elaboration techniques include creative writing, expanding upon a sentence or thought, and visual representations of mental images.

2.2.4. Types of Generative Learning

The fundamental concept behind generative learning strategies is that learning involves the creation and refinement of individual mental constructions about the world. However, not all class work is considered generative in nature, even though it might help students build and clarify their conceptualizations. (Grabowski (1996 p. 911) suggested that only those activities involving the actual creation of relationships and meaning are classified as generative learning strategies and that there are two basic families of these strategies.

One approach is to uncover the organizational relationships between the different components of the environment, which helps a learner understand how items are connected to one another. Well-documented examples include creating titles, headings, questions, summaries, graphs, tables, and concept maps. On the periphery of this group is the manipulation of objects, such as in a laboratory experiment, "because a relationship is being drawn and extended between parts of the environment"

A second type of generative activity integrates relationships between external stimuli and memory by asking students to construct metaphors, analogies, examples, pictures, applications, paraphrases, or inferences. This differs from the previous strategy in that these activities not only require deeper processing of the instructional content, but they also result in a higher level of understanding. Ritchie and Volki (2000) examined the effect of two generative learning strategies (concept mapping and laboratory experiment involving object manipulation) to determine if either one is more effective with individual learners or learning group in a science classroom. The sample of the study comprised eighty six-grade students who were randomly assigned to group or individual conditions and to one of two experiments. Experimental treatments were changed between a first and a second posttest. Long-term retention was evaluated with a third-delayed posttest. The findings of the study revealed that students starting with

concept maps showed higher achievement on the delayed posttest than students beginning with the laboratory experiments. No significant difference was found between students working as individuals or in-group, but a significant interaction between generative learning strategy and grouping condition was uncovered.

2.2.5.Phases of GLM

The GLM consists of four phases (Ayas, 1995; Hand ; Treagust, 1991). These phases are as follows**:**

a) Preliminary Phase (Before reading)

In this stage the teacher tries to know his pupils' knowledge about the topic through asking some questions that require students to give their responses orally or in a written form. Before students engage in reading, they are often encouraged to skim a text, predict, set a purpose for reading, activate their prior knowledge, stimulate their awareness of their roles, perceptions and beliefs, and focus their attention on the reading text. Relevant contexts were given to students to arouse their curiosity. Students then participate in a discussion.

b) Focus Phase (while reading)

In the focus phase of the generative learning model, the teacher divides the class into groups after answering the questions individually. The teacher asks pupils to discuss the information that was acquired at the preliminary phase. Later on, students' observations and their conclusions are discussed.

During reading, students respond to text, ask questions about the content, construct mental images representing the meaning in text, and paraphrase the text. For example, students, at this stage, often summarize, take notes, generate questions, determine the main idea, draw inferences, and determine the stance of the author. In this respect, Davis and Hult (l997) compared experimental conditions of note taking and their effectiveness as generative learning activities. The findings revealed that note taking was an effective learning strategy, and summary writing during lectures resulted in more retention.

c) Challenge Phase (while reading)

In the challenge phase of GLM, the teacher gives them the text. The teacher discusses, explains and guides them. Students complete the activities on the worksheet. Such activities enable students to achieve their missing knowledge and establish links with their existing knowledge. Students recorrect their information or complete it.

d) Application Phase (After reading)

In the final phase of GLM, students try to use the knowledge they had attained. The teacher asks them to make a concept map, diagrams and paraphrasing. A general evaluation together with the students was made about their understanding. During the evaluation, the main focus was on enabling students to link their existing knowledge with the new knowledge. Students are encouraged to coordinate and summarize all the generations of relations into an organized and integrated meaning, and to evaluate the effectiveness of these activities in building comprehension.

3.Method

3.1. Design of the Study

The current study is quasi-experimental where experimental/control groups were pre-post tested.

3.2. Participants of the study:

Participants of the study were (N=68) second year preparatory pupils from Alshahid Mahmoud Elsayed prep school, Elbagour, Menoufia governorate during the second semester of the 2019– 2020 scholastic year. The two second preparatory classes were assigned to two groups thirty-four pupils in class 2/A served as the experimental group and the other thirty-four in class 2 / D served as the control group.

3.3. Instruments and materials of the study

For the purpose of the study, the following instruments and material were used by the researcher:

1. An EFL reading skills checklist
2. A reading skills Pre-Posttest
3. Teacher's guide on Generative learning Model

3.3.1 EFL reading skills checklist
3.3.1.1. Description of the EFL reading skills checklist
The final version of EFL reading skills checklist consisted of six skills. These skills are: skimming to get the main idea, scanning to find specific information, guessing the meaning of unfamiliar words from text, drawing inferences, differentiating between facts and opinions, and drawing conclusions.

. 3.3.1.2.Validity of the EFL Reading Skills Checklist
To ensure the validity of the EFL reading skills checklist, in its first version, it was submitted to a jury of experts in EFL methodology .They were requested to judge the checklist validity in terms of clarity, instructions, and suitability for the pupils' level. All the jury members indicated that the checklist items were clear and appropriate. Yet they suggested some modifications which were considered by the researcher. Such modifications included:

Modifying:
1- Differentiating between facts and inferences to differentiating between facts and opinions.
2- Write conclusion to draw conclusion.

Adding:
1- Drawing inferences.

Deletion:
1-Using dictionary because it is similar to guessing the meaning of unfamiliar words from text.
2-Identifying the topic sentence because it is similar to skimming to get the main idea.

3.3.2. An EFL reading skills Pre-Posttest
3.3.2.1. Description of the EFL reading skills Pre-Posttest:
The test consisted of two short reading passages. They were adapted from the internet. The first passage is entitled "The killer Whale''. The second passage is entitled "School uniforms - Good or Bad". Both were adapted to suit the level of EFL second preparatory pupils.

Each passage had 10 MCQs with 1 mark for each item. Twenty multiple-choice items; 10 items for each reading passage. The test total score was 20 marks. The selection from several alternatives was relatively straightforward and eliminates the potential influence of any language

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production difficulties the pupils may have. Moreover, it puts little strain on the pupils' memory.

3.3.2.2. Validity of the test

To measure the test validity, it was presented to a panel of jury members (N=5) from EFL teaching specialists to give their viewpoints concerning the following: a) the suitability of the reading passages to the pupils' language proficiency level. b) The compatibility of the test items to the stated reading skills. c) the sufficiency of items to cover the identified skills and the clarity of the test items.

The test proved to be mostly a valid one, as it measured what it was intended to measure. However, the following remarks were given by the jury members:

1. Some sentences in the passages were rephrased, other sentences were omitted and others were added to make the passages clearer and more suitable to the pupils' language level for example:

    A) Some items in the first passage:

    - Item(1) was modified from " which of the following statements is a fact" to " tick (√) if it's a valid fact "
    - Item(9) was modified from " jump "to " unclear "

    B) Some items in the second passage:

    - Item(9) was modified from " clean "to " socks "
    - Item(10) was modified from " horrified "to " bullied "

2. It was suggested to highlight the keywords in the questions so that it would be easy for the pupils' to keep focused on the skill intended.

The test was modified according to the jury's recommendations and the final form was attached.

3.3.2.3. Reliability of the Test:

To estimate the reliability of the reading skills tests, the test re-test method was used. A group of second year preparatory pupils at Alshahid Mahmoud Elsayed prep School (N=23) was selected. The scores of the two administrations were correlated with Person Correlation. Since the correlation coefficient was (0.772), the test was considered a reliable one. The following table shows Person Correlation of each skill on the reading skills test:

Table (1)

The Reliability coefficient

Reading skills	Correlation
Skimming to get the main idea.	0.754
Scanning to find specific information	0.791
Guessing the meaning	0.804
Drawing inferences	0.757
Differentiating between facts and opinions	0.783
Drawing conclusions	0.761
Overall skills	0.772

3.3.2.4. Piloting and Timing of the Test

In order to examine the suitability and appropriateness of the test in terms of time, difficulty and discrimination coefficients, the test was conducted (as a piloting test) on a randomly selected group of students (23) , who had similar characteristics to the target groups, control and experimental. After the implementation of the piloting test, the researcher computed the test time.

Test time = $\dfrac{\text{The time needed for the 1}^{\text{st}}\text{ studsent to leave the room} + \text{the time needed for the last student to leave the room}}{2}$

= (31 + 54) / 2 = 42.5 minutes

Applying this equation, the researcher found that the time needed for the pretest to be applied was 45 minutes.

3.4. The Treatment (Generative Learning Model guide)
3.4.1. Aim and/or objectives of the guide

The current guide aims to help preparatory stage pupils develop EFL reading skills through GLM.

By the end of the sessions, students are expected to be able to:

1. Skim to get the main idea,
2. Scan to find specific information.
3. Guess the meaning of unfamiliar words from the text.
4. Drawing inferences.
5. Differentiate between facts and opinions.
6. Draw conclusions.

3.4.2. Content of the guide

The program is composed of thirteen sessions; Two orientation sessions in which students are introduced to the guide aim and objectives, the procedures to be followed in the following sessions and the skills to be dealt with later on. The other ten sessions were the core of the program.

The content of the GLM scripts was collected, revised and modified by the researcher. The researcher made sure that the content is suitable and relevant to the pupils' background knowledge, culture, age, and language level of the second year preparatory pupils.

3.5. Assessment Techniques

The researcher used both forms of assessment; namely formative assessment during the sessions and summative assessment at the end of intervention.

### 4.Findings and Discussion

4.1. Hypothesis One

"There is a statistically significant difference between the post-test administrations mean scores of the experimental and the control groups on Overall EFL Reading skills in favor of the experimental group."

Table (2): Descriptive Statistics of Students' mean scores of the Control Group and the Experimental Group in the Overall EFL Reading skills.

skill	Group	N	Mean	Std. Deviation	Minimum	Maximum	Mean difference	total score
Overall EFL Reading skills	Experimental	34	16.68	1.75	13	20		
	Control	34	10.62	2.91	6	20	6.06	20

Table (2) shows that the value of the reading skills mean score of the experimental group was (16.68) which is higher than that of the control group which was (10.62). As table (2) shows, there existed an increase in the scores of the experimental group more than those of the control group in the post administrations of Overall EFL Reading skills test.

This is represented graphically in figure (1)
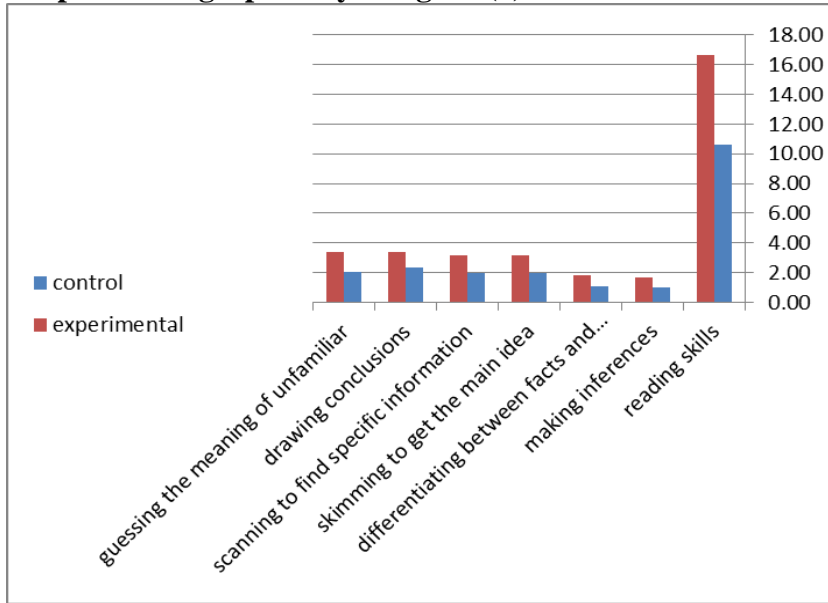
To study the significance of the differences, t-value was calculated for the difference between the mean scores of the two groups; as illustrated in table (3):

Table (3): Difference between the Mean Scores of the Two Groups in the Post administrations

skill	Group	Mean	Std. Deviation	t-value	d.f	sig	η^2	d	Effect size
Overall EFL Reading skills	Experimental	16.68	1.75	10.39	66	Sig. at (0.01)	0.62	2.56	Large
	Control	10.62	2.91						

It is clear from table (3) that the calculated value of "t" (10.39) is higher than the tabulated value of "t" at 66 degrees of freedom and significant level "0.01" ; which meant that the difference between the mean scores of the two groups reached the level of statistical significance. Thus, the hypothesis was accepted.

In order to investigate the effect and educational importance of the results and its educational importance and effectiveness; the value of ETA

square ($^2\eta$) and the effect size (d) were calculated as its value (ETA squared) was 0.62. ETA square value which was significant to the height effect and educational importance It can be said that 62% of the variations between the scores of students in Reading skills could be due to differences of teaching treatment which the two groups were exposed to, and that there was height effect and educational importance for using generative learning model for improving and developing Reading skills.

4.2. Hypothesis Two:

"There is a statistically significant difference between the post-test administrations of the experimental and the control groups on each of reading sub skills in favor of the experimental group."

Table (4): Descriptive Statistics of the Control Group and the Experimental Group's mean scores in each of reading sub skills.

Reading sub skills	Group	N	Mean	Std. Deviation	t-value	d.f	sig
skimming to get the main idea	Experimental	34	3.15	0.74	5.649	66	large
	Control	34	2	0.92			
scanning to find specific information	Experimental	34	3.18	0.90	5.222	66	large
	Control	34	2	0.95			
Guessing the meaning of unfamiliar words from the text	Experimental	34	3.41	0.78	6.335	66	large
	Control	34	2.09	0.93			
making inferences	Experimental	34	1.68	0.47	4.797	66	large
	Control	34	1.03	0.63			
differentiating between facts and opinions	Experimental	34	1.85	0.36	5.536	66	large
	Control	34	1.12	0.69			
drawing conclusions	Experimental	34	3.41	0.61	5.89	66	large
	Control	34	2.38	0.82			
Reading skills	Experimental	34	16.68	1.75	10.39	66	large
	Control	34	10.62	2.91			

The findings are dealt with as follows:

A) Concerning skimming skill, it is clear from the previous table that the calculated value of "t" (5.649) is higher than the tabulated value of "t" at 66 degrees of freedom and significant level "0.01"; which meant that the difference between the mean scores of the two groups reached the level of statistical significance. Thus, the hypothesis was accepted. The value of ETA square (η^2) and the effect size (d) were calculated as its value (ETA squared) was 0.33. It can be said that there was height effect and educational importance for using GLM for developing skimming to get the main idea skill.

B) Concerning scanning skill, it is clear from the previous table that the calculated value of "t" (5.222) is higher than the tabulated value of "t" at 66 degrees of freedom and significant level "0.01"; which meant that the difference between the mean scores of the two groups reached the level of statistical significance. Thus, the hypothesis was accepted. The value of ETA square (η^2) and the effect size (d) were calculated as its value (ETA squared) was 0.29. It can be said that there was height effect and educational importance for using GLM for developing scanning skill.

C) Concerning guessing the meaning skill, it is clear from the previous table that the calculated value of "t" (6.335) is higher than the tabulated value of "t" at 66 degrees of freedom and significant level "0.01"; which meant that the difference between the mean scores of the two groups reached the level of statistical significance. Thus, the hypothesis was accepted. The value of ETA square (η^2) and the effect size (d) were calculated as its value (ETA squared) was 0.38. It can be said that there was height effect and educational importance for using GLM for developing guessing the meaning skill.

D) Concerning drawing inferences skill, it is clear from the previous table that the calculated value of "t" (4.797) is higher than the tabulated value of "t" at 66 degrees of freedom and significant level "0.01"; which meant that the difference between the mean scores of the two groups reached the level of statistical

significance. Thus, the hypothesis was accepted. The value of ETA square (η^2) and the effect size (d) were calculated as its value (ETA squared) was 0.26. It can be said that there was height effect and educational importance for using GLM for developing drawing inferences skill.

E) Concerning differentiating between facts and opinions skill, it is clear from the previous table that the calculated value of "t" (5.536) is higher than the tabulated value of "t" at 66 degrees of freedom and significant level "0.01"; which meant that the difference between the mean scores of the two groups reached the level of statistical significance. Thus, the hypothesis was accepted. The value of ETA square (η^2) and the effect size (d) were calculated as its value (ETA squared) was 0.32. It can be said that there was height effect and educational importance for using GLM for developing differentiating between facts and opinions skill.

F) Concerning drawing conclusions inferences skill, it is clear from the previous table that the calculated value of "t" (5.891) is higher than the tabulated value of "t" at 66 degrees of freedom and significant level "0.01"; which meant that the difference between the mean scores of the two groups reached the level of statistical significance. Thus, the hypothesis was accepted. The value of ETA square (η^2) and the effect size (d) were calculated as its value (ETA squared) was 0.34. It can be said that there was height effect and educational importance for using GLM for developing drawing conclusions skill.

4.3. Discussion of results:

Data analysis showed that the experimental group pupils outperformed the control group pupils in overall as well as in each of the reading skills. This is due to the GLM program. The study hypotheses were all supported reflecting the development of the pupils' reading skills.

The findings showed that t- value obtained was significant at the level of (0.05) not only for overall reading skills but also for each of the reading skills. The significance was not only statistical but educationally

important as well. The findings of the current study revealed that the experimental group pupils' EFL reading skills were developed after the implementation of the generative learning model program.

The experimental group pupils' progress shown in EFL reading skills post-test administration was due to the GLM program. The content of the program was motivating and interesting. The pupils could be engaged in pair as well as group work activities. Also, the program methods and activities that were not a teacher-centered helped them to differentiate between facts and opinions, draw conclusions, skim for the main idea, and scan for details. Also, they were able to guess the meaning of the unknown words from context.

In addition, the assessment techniques, both formative and summative, were used. The former helped them receive feedback immediately and know whether their attempts or answers are right or wrong. This helped them learn better. The latter was represented in the administration of the reading skills posttest. This reflects that the program had a positive effect on developing EFL preparatory pupils' reading skills.

The findings were consistent with other research findings. They were also consistent with Davis and Hult (1997) their findings revealed that note taking was an effective learning strategy, and summary writing during lectures resulted in more retention. They also consisted with Ritchie and Volki (2000) where their findings revealed that students starting with concept maps showed higher achievement on the delayed posttest than students beginning with the laboratory experiments. No significant difference was found between students working as individuals or in-group, but a significant interaction between generative learning strategy and grouping condition was uncovered. Finally they were consistent with Al-Qatawneh & Alodwan (2010) where their findings revealed that there was a statistically significant difference between the mean scores of the two groups on the reading comprehension test and on the strategy awareness questionnaire.

Suggestions for further research:

Based on the results of the present study, the researcher can recommend and suggest :

- GLM provided in the current study can be adopted for teaching EFL reading skills to pupils at the preparatory stage and other stages.
- GLM might offer a lot of options which can be used not only to make teaching interesting but also to make teaching more effective and productive in terms of student' improvement
- EFL reading skills should be given enough attention in EFL course.
- EFL teachers should enhance their skills in using new methods of teaching.
- The teacher should take into consideration the differences in EFL pupils' learning abilities and styles.

  The researcher suggests conducting further research to examine:
  a) The effectiveness of using GLM in developing EFL, reading skill among primary school pupils.
  b) The effectiveness of using GLM in developing EFL writing skill among preparatory school pupils.
  c) The effect of GLM on expanding vocabulary among preparatory school pupils.
  d) Using GLM to teach grammar to preparatory school pupils.
  e) Investigating the effectiveness of GLM in developing lingual skills, attitude towards EFL and thinking skills for secondary stage students.

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