Using Project –based learning to Develop EFL Reading Comprehension Critical Skills for preparatory stage pupils

A research Submitted for the fulfilment of the requirements of the M.A degree in EFL Curriculums and instruction (TEFL)

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Title: Using Project –based learning to Develop EFL Reading Comprehension Critical Skills for preparatory stage pupils

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The current study aimed at developing first year preparatory pupils’ EFL Reading Comprehension skills using project-based learning. A group of sixty-four first year preparatory pupils from Kafr Alashry preparatory school participated in the study during second semester of the academic year 2022-2023. The participants were divided into two groups: an experimental group (No=32) and a control group (N= 32). The Instruments and materials of the study consisted of an EFL reading comprehension skills checklist, an EFL reading comprehension skills test and a teacher’s guide. The experimental group pupils were taught using project-based learning, while the control group pupils received regular instruction. The participants were pre-post tested using the reading skills test. After manipulating data statistically, the results revealed that using project-based learning approach was effective in developing first year preparatory pupils' EFL reading comprehension skills. It is recommended that project-based learning be used in EFL classes in general and the reading class in particular.

Key words: Project-based learning, EFL reading comprehension, preparatory school pupils.
Introduction

Language distinguishes humans from other creatures. It is a system of symbols with an agreed upon meaning that is used by a group of people. Language allows people to share ideas, thoughts and feelings with others. EFL has several macro and micro skills. One of the macro skill is reading. It is important to help pupils/students not only learn reading skills, but read to learn well. Reading is a mean of developing language and culture.

Reading plays an important role in learning English as a foreign language. Reading in its nature is not just the process of mouthing words, but it seeks to understand what is beyond the written symbols, so the reader interacts with the text using his linguistic knowledge for
understanding (Al Tameemy, Daradkeh & Al hamod, 2018). It is the primary vehicle to acquire information and interact with other cultures in order to develop the way learners think and live. So, it is very important for pupils/students to master reading in order to be educationally and socially effective (Mostafa, 2019).

Reading skills must be taught in more interesting ways. The readers must be able to "learn and appreciate the reading they are doing, since learning reading practices is an activity that aims at gaining in-depth knowledge and comprehension of what is being read" (Ardhian, 2020, p.108). The reader should be able to correctly interpret the text and derive meaning from it. Through reading, students are required to obtain knowledge and understand the sense of reading. Teachers should take precautions to increase academic achievements because understanding reading is an activity that aims to obtain in-depth information and understanding of what is read. So the students can be good readers if they can reach the goal of reading itself, this goal is reading comprehension (Santi, 2015).

Reading comprehension is an interaction between text and reader which is influenced by variables that govern those two environmental conditions. These variables are linked to the reader or to the reader's own text (Oda, 2017). Reading comprehension is one of the fundamental skills in any language. It is the center of the foreign language learning curriculum because true understanding happens when readers combine their thoughts with the text, ask questions, draw inferences, think about what is relevant, summarize and synthesize, enabling them to use their understanding to ask more questions and direct new learning (Elghotmy, 2018). In this dynamic process, the reader builds meaning by communicating with text using his previous knowledge and experience and the details that can be found in the text. The more context information about the text that the reader has, the easier it is for him to understand the text (Aghasafari and Aziz, 2015, p.149).

Some recent studies have shown that several learners struggle with understanding, contributing to low educational achievement. They face many challenges and lack the use of reading comprehension strategies linked to reading texts (Ashour, 2018). Also, there is always a limited opportunity to use English in the classroom, because the goal is to learn language only as a school subject, but not widely outside the classroom. (Khtatbah, 2018, p.3) This is one reason why students fail to read.
So it is very important to find effective strategies that encourage students to actively participate and practice reading in EFL reading classes. This can be done by overcoming the difficulties, and using various approaches and strategies that help pupils/students read effectively. It is suggested that using project-based learning be used to help preparatory pupils develop their reading comprehension skills.

Project-based learning is one of the modern methods in teaching the English language, especially reading. The core idea of project-based learning is that real-world problems capture students' interest and provoke serious thinking as the students acquire and apply new knowledge in a problem-solving context. The teacher plays the role of facilitator, working with students to frame worthwhile questions, structuring meaningful tasks, coaching both knowledge development and social skills, and carefully assessing what students have learned from the experience.

Project-based learning provides students with opportunities for effective and active participation as they are given the opportunity to do things by themselves. It also helps students to recall their prior knowledge and bring it to the reading process through constructivist tasks making them involve in real-life challenges and problems that require them to get information, and communicate with others to present a good product (Zahran, 2018). It is an instructional framework that allows teachers to facilitate and assess deeper understanding rather than stand and deliver information. In addition, project-based learning has been shown to benefit a variety of students in developing collaborative skills (Migdad, 2016) and (Mahasneh, 2018).

Project-based learning offers a chance for students to develop many talents and creativity (Sirisrimangkorn, 2018). As it is a creative approach that could enhance and raise students' competence in language skills especially in reading. That is, students become courageous and motivated to perform better in reading when cooperative learning is incorporated in the classroom. In order to achieve this the teacher uses a variety of activities to stimulate students' thinking by organizing open-ended driving questions or challenge, ask them to know the main ideas of the passage. This works by answering questions, and seeking transplant solutions from books, magazines, newspapers, blogs, and web surfing (Shiraz and Larsai, 2014).
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Project-based learning helps to support learning through meaning-based and content-based learning rather than grammatical or linguistic forms. Project-based learning (PBL) is an educational approach used to develop some of reading skills preparatory school pupils require.

1.2. Context of the problem

First, as a teacher of English for 7 years, it was observed that there was a lack of EFL reading comprehension skills among preparatory pupils.

Second, reviewing previous studies emphasized the need for paying attention to reading comprehension skills. Some of the studies include Issa( 2017), Salem, (2017), Elghotmy(2018) and El-tonsi (2018). Such studies confirmed that preparatory pupils lack some reading comprehension skills. Also, Ragab (2018) and Mostafa (2019) emphasized the apparent weakness of first-year preparatory pupils in the required reading comprehension skills in addition to their negative attitudes towards reading in English. Further, El Banna (2019) revealed that there is an urgent need to enable pupils/students to read correctly and understand the texts to de read and this can only be done by searching for appropriate modern strategies and methods that can help them overcome such weakness. On the other hand, several studies confirmed the effectiveness of using Project-learning approach in developing reading skills, e.g. Zahran (2018) and Al-Sabbag (2019).

Third, to document the research problem, a pilot study was conducted to uncover the difficulties, which preparatory school pupils face in EFL reading comprehension skills. This pilot study consisted of a reading comprehension test prepared by the researcher on first preparatory stage pupils at Kafr Alashry Preparatory school in Menouf. The results revealed that more than 70% 1st preparatory pupils have a relatively low level of reading comprehension skills.

1.3. Statement of the problem

The problem of the current research is the low level of preparatory stage pupils in EFL reading comprehension skill. Many of them are unable to comprehend a reading text at either the literal or the critical levels. That is why the current research aimed to develop first grade-preparatory school pupils’ EFL reading comprehensions skills.

1.4. Questions of the study

The current research attempted to answer the following questions:
1- What are the EFL reading comprehension skills required for first year prep school pupils?

2- What is the level of the first year preparatory school pupils of this skill?

3- What are the characteristics of project-based learning?

4- What is the effect of Using Project –based learning on developing EFL Reading Comprehension Skill for preparatory school pupils?

1.5. Study Hypotheses

1- There is a statistically significant difference at the (0.01) level of significance between the mean scores of the experimental and control groups on the post administration of the overall EFL reading comprehension skills test in favour of the experimental group.

2- There is a statistically significant difference at the (0.01) level of significance between the mean scores of control and the experimental groups on the post administration of critical comprehension in favour of the post administration.

1.6. Significance of the study

The current research could be significant as follows:

For EFL students:

- It could help the preparatory stage pupils to improve EFL reading comprehension sub skills. Including reading for details, guessing unfamiliar words, determining the main idea and predicting subsequent events. Moreover, it could make the task of reading easier.

For EFL teachers:

- It could provide English language teachers with a list of reading comprehension skills. It also provides with information about Project –based learning that could help them to develop their pupils/ students’ reading comprehension skills.

- It could be also helpful for teachers as it could increase their awareness of the importance and benefits of project-based learning and how it could be implemented effectively in EFL class in general and EFL reading classes in particular.

- It could direct EFL teachers’ and supervisors ‘attention to the necessity of developing EFL reading comprehension skills using project based learning approach.

For EFL curriculum designers:
• It could draw the attention of Curriculum designers to the importance of reading comprehension skills and how to incorporate project-based learning in EFL reading classes.

• It could draw their attention to the importance of using project-based learning strategies and activities in students' workbooks and teacher guides that could help teachers use project-based learning approach in EFL skills in general and EFL reading in particular.

For EFL researchers

The findings of this study can be used as a starting point for the researcher to gain experiences that will be useful as an English teacher in the future, and the outcome of the study can be a guide in reading comprehension skills in the use of project-based learning to develop the reading comprehension skills of students. For other researchers who want to do more study on the same topic, the outcome of this study may be helpful.

1.7. Aim of the study

The current study aimed to investigate the effect of Using Project–based learning on developing EFL reading comprehension critical skill among preparatory stage pupils.

1.8. Participants of the study

The Participants of the study included a group of 64 EFL first year preparatory school pupils at Kafr Alashry preparatory school in Menouf Menoufia Governorate. They were divided into two groups: an experimental group (n=32) and a control group (n= 32).

1.9. Delimitations of the Research

The current research was delimited to the following:

1. A group of sixty-four EFL first-year preparatory stage pupils at Kafr Alashry preparatory school in Menouf Menoufia Egypt.

2. EFL reading comprehension skills

3. The second semester of the academic year (2022-2023).

1.10. Instruments and materials of the study

The researcher will prepare and use the following tools and materials

1- An EFL reading comprehension skills checklist.
2- An EFL reading comprehension test.
3- The teacher's guide

1.11. Study variables

1- Independent variable: project-based learning.
2- The dependent variable: reading comprehension critical skills.

1.12. Definition term

1- **EFL Reading comprehension critical skills**

   Shehata (2019) defined reading comprehension as "the ability of students to extract meaning through interaction within written text. "Reading comprehension also refers to understanding what we read where words have context and texts have meaning (Mostafa, 2019, p.112).

   In this study, EFL reading comprehension skills were operationally defines, as the ability of prep stage pupils to read and understand the text at the various levels of comprehension namely, literal, inferential and critical.

2- **Project-based learning**

   Miqdad (2016) defined it as a set of activities inside or outside the classroom led by students who work in groups to solve specific problems to get the best learning of the new vocabulary, structure and text meaning. Project-based learning is an innovative method capable of enhancing and improving language skills for students, especially in reading. That is, when cooperative learning is incorporated into the classroom students become courageous and motivated to perform better.

   Al-Sabbag (2019) defined it as a flexible instructional method that provides students with integrated, meaningful on-going activities that helps them develop reading skills, enhance students’ motivation and foster higher order thinking skills.

   In this research, project-based learning was operationally defined as the approach that aims to develop EFL reading comprehension skills for prep stage pupils and mastering content together by using specific and sequential steps enabling students to understand what the teacher saying using sensory teaching
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Aims in an interaction between the teacher and the pupils through activities that inspire pupils’ creative and critical thinking and evaluating their performance all the time in order to achieve the planned educational goals.

Review of literature

Reading is one of the most important skills; it is an active process of constructing meaning. It is also crucial and indispensable for the students because the success of their study depends on their ability to read. It is the main way to get knowledge and communicate with other cultures to improve learners’ way of thinking and satisfy their curiosity. It is not only a source of information, but also as a way to consolidate and expand one's language skills (Diab, 2020). So, reading is considered one of the most important skills that students should master to achieve.

2.1.1Purpose of reading

Reading serves different purposes and people read for a variety of reasons. They read for pleasure, to get specific information, or to understand the meaning of a text as a whole. Many people read to gather information from written texts. Students are taught to read to improve their language and to develop the understanding of the meaning of texts. Reading is a participatory experience in which the reader makes use of the information presented. Based on his or her prior knowledge as well as information obtained from the page that is printed. Reading is also interactive in the sense that many people participate in it. In the process, different skills operate together at the same time (Helwa, 2014).

The reading purpose is to gain comprehension and understanding from the written texts. The reader needs to get what the research tells him/her about the active process of acquiring meaning to apply comprehension strategies. The purpose of reading is to develop the current communication to something that the reader can express in his/her real-life context (Sangia, 2018). If the communication between the reader and writer is significant, there will be a close relationship between them, so the message will generate a positive improvement. It is always possible for the reader to enforce the information obtained from written texts, so that interaction will result more natural.

Reading with a purpose helps the reader to direct information towards a goal and focuses their attention. Although the reasons for reading may vary, the primary purpose of reading is to
understand the text. Reading cannot be separated from comprehension because understanding of what we read is the purpose of reading (Deny, 2016:129). Reading with a goal in mind allows the reader to focus their attention and guide information toward a specific objective. Although there are a variety of motivations for reading, the basic goal is to comprehend the material.

2.1.2 Nature of EFL Reading Comprehension

According to Grabe and Stoller (2013), reading comprehension is the ability to understand information in a written text and interpret it appropriately. Comprehension means understanding of the content and the idea of the passage. Also, Helwa (2014) pointed out that reading comprehension is the active process of constructing meaning from the text. It involves accessing previous knowledge, understanding vocabulary and concepts, making inferences, and linking key ideas. It cannot be learned through rote instruction, but requires a series of strategies that influence understanding of text.

Yukselir (2014:66) defined reading comprehension as "the result of complex interaction between the text, setting, the reader, the reader’s background, reading strategies, decision making, and L1 and the L2. In the reading process the reader constructs meaning by interacting with text using his or her previous knowledge and experience and the information that can be found in the text (Aghasafari, Aziz, 2015).

To comprehend the text, the reader must be able to construct the meaning as a result; they are expected to be able to read not only the text but also to read with fluency. Pupils should not only read a sentence and repeat it to others, but we must also comprehend it (Deny, 2016).

Reading comprehension is, therefore, a complex cognitive process where readers’ prior knowledge and experiences serve central roles in the interpretation of texts. This transactional view assumes that the readers are actively making meaning as they metaphorically dialogue with the authors of texts. (Ahangari & Ahour, 2018). El-Marakby (2016) added that reading comprehension skills are prediction, scanning for specific information, extracting the meaning of unfamiliar words through context, sequencing of events, making inferences, summarizing and expressing opinions.

Kasim (2017) stated that reading comprehension is a process of extracting information from the text and constructing comprehension through the interaction between the text and the
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Reading comprehension is the goal of instruction in reading. Although word recognition is a means to an end, reading comprehension represents the major goal or product of reading. According to Kamagi (2020), Comprehension is divided into various levels: (1) literal, (2) inferential, and (3) critical. Being able to understand what one reads is not, in fact, a singular cognitive process but rather an integrated thought process.

Critical reading is the cycle to assess the possibility of the content with standard and decision about the precision. In basic reading, the reader must gathered, break down and synthetize the data of the content. a Critical evaluation occurs only after students have understood the ideas and information that the writer has presented. The student is asked to critique the work of the author and/or illustrator regarding how well they did their job. In addition, the student is asked to judge the quality of an information source. Here the student might be asked to determine if the information in the book is on the desired topic, is accurate, is written by a qualified author, and is unbiased. Verbs used with the level, such as evaluate, judge, rate.

Ashraf (2021) reported that the critical level includes critical or evaluative comprehension. It requires making critical judgments about the information in the text. It requires a high level of interaction between the reader, text information and other readers or other texts. Moreover, both in-depth analysis and critical thinking are required when making critical judgment and evaluations, critical thinking and in-depth analysis are needed.

**2.1.3 Importance of EFL Reading Comprehension**

In EFL classrooms, reading comprehension is one of the fundamental skills. There are a number of reasons why it forms the foundation of the foreign language curriculum (Medina, 2012; Behjat, 2011; Afida, 2008). These are as the following.
1- Its purpose is to help pupils gain a deeper understanding of the language they are learning.

2- It is one of the most generally involved language abilities in daily life as an observer by using the interment.

3- It gives a major commitment to students to perform their communication skills better.

4- It helps the pupils to find the meaning of what they read.

5- It assists the pupils to construct meaning by focusing on the highlights of a text and to relate those elements to their related involvements.

6- It gives a major commitment to learners to play out their communication better.

2.1.4 Problems of EFL Reading Comprehension

Many students can recognize words and know how they are pronounced, but they do not know their meanings. The students had problem in comprehending texts such as in determining main idea, interpreting word phrase, and drawing logical inference. The student’s problems can affect their interest in reading and make them bored. (Indriyati, 2013).

One of the difficulties that pupils experience when reading is comprehending the text. They are unable to concentrate on what they are reading during the reading activity, and they are still unable to comprehend the text's main ideas. If they use poor strategies, completing a reading comprehension text will take a long time. Another issue is that while not all of the information in the passage is needed to answer the reading questions, students typically read the passage word for word. Reading a text word for word causes them to forget what they have read rapidly (Asmawati, 2015).

According to Alberti (2014), there are several problems in teaching and learning of reading Comprehension:

1) Students’ reading comprehension is low.

2) Students had difficulties to understand the text and get the information from it.

3) Most students had the ability to translate the individual words.

4) Students lack motivation to read English text.

2.2.1 Nature of project-based learning (PBL)
Project based learning is derived from the idea that students should be doing a task to aid in the learning process. PBL requires the active participation of students’ efforts over a long period, promotes links between disciplines, presents an expand view of subject matter, and necessitates activities that are meaningful to the learner in order to promote a deep level of understanding of the content. In essence, PBL can be described as a synthesis of various instructional components and approaches, including former models of instruction that include inquiry-based learning, problem-based learning, cooperative learning, and authentic learning (Larrier et al., 2016).

Project-Based Learning is a student-centered approach to education that takes the form of an investigation, involves document preparation, collaboration, decision-making based on data analysis, and is product-oriented. Teachers can use PBL to create syllabuses based on predetermined learning outcomes, making it a teaching method because it is based on learning theories like constitutionalism and learning through experience. PBL includes active learning, curriculum-based tasks, challenging questions or problems, requiring creative and critical thinking skills, teamwork, information management, problem solving, decision-making, self-evaluation, and product orientation. In the context of education, PBL works well for both individuals and groups (Rahman, 2019).

According to Sumarni (2015), PBL has the potential to enhance students’ abilities to collaborate, communicate, be creative, and solve problems. The use of PBL in the classroom has a number of advantages. According to Dewi (2014), PBL activities in the classroom make learning enjoyable and fun for students, and using students’ real-world projects to reinforce knowledge is another benefit. She also says that the teacher should avoid having too much of a formal relationship with the students in order for PBL activities to be successful in the classroom. On the other hand, some experts identify some issues with PBL. Students must solve the problem, so this method takes a lot of time (Karyawati and Ashadi, 2018).

Friska (2018) reported that PBL is a student-centered methodology that entails a dynamic classroom approach in which students gain a deeper understanding via active study of real-world issues and problems. Students learn about a subject through investigating and responding to a complex inquiry, challenge, or problem over a long period. Students seek solutions to problems by asking and refining questions, debating ideas, making predictions, designing plans, collecting
and analysing data, drawing conclusions, communicating ideas, asking new questions, and creating artefacts using the tenets of PBL. Lenz and Larmer (2020) defined PBL as a teaching method in which students gain knowledge and skills by working for an extended period of time to investigate and respond to an authentic, engaging, and complex question, problem, or challenge.

### 2.2.2 Advantages of the Project Based Learning (PBL)

There are numerous advantages to project-based learning for the learning process. According to Harmer and Stokes (2014), the advantages that students gain from using PBL can be divided into three major points: PBL improves academic achievement, develops skills related to professional practice, and cultivates students' self-discipline and motivation. The Project Foundry organization in the United States (2016) claimed that Project-Based Learning (PBL) has a number of advantages for educators. These advantages include the ability for teachers to have a greater dialogue with each individual student, the provision of teachers with crucial information regarding the learning habits of their class. They also include the opportunity for teachers to go beyond the confines of the classroom, and the fact that the assessment procedure in Project-Based Learning provides teachers with sufficient and beneficial feedback in assessing their students (Sahib and Abed Salamin 2020).

In addition, students are given the chance to learn content and acquire 21st century skills in a manner that is similar to many of the situations they will encounter as adults. Students can be motivated in a variety of ways thanks to PBL’s ability to differentiate assessment, give students autonomy and a sense of responsibility, and equip them with skills for the future (Clark, 2017).

PBL is a teaching approach that focuses on the students’ needs and their academic achievement this could be detrimental because academic practice includes both teaching and research. An important motivator is participating in projects that would benefit both the teacher and the students academically (Aristidou, 2020). As Students become motivated and take ownership of their learning, they develop their knowledge and understanding in an integrative manner. Students also learn how to communicate. They encounter a variety of learning tasks and receive a response to their learning needs through problem solving (Holm, 2011). The project-
based model has been proven to be able to increase students' learning and motivation during the pandemic (Lesnowati & Hafifi, 2021).

Rees et al. (2019) indicated that PBL is highly effective for teachers to help learners acquire disciplinary skills, modes of thinking, and collaborative practices by creating solutions. PBL is a meaningful tool instructors can implement to boost the learning process and obtain positive and fruitful results. There are several advantages when referring to how PBL contributes to the teaching and learning process. Even though, it represents a more time-consuming methodology, it is worth the implementation because it engages students immediately, even if they are not active students in the classrooms. For example, Mihic and Zavrski, (2017) explained that it enhances critical thinking, promotes and encourages collaboration and teamwork, increases communication skills, develops higher order thinking, teaches decision making, fosters creativity, provides knowledge application and contextualization of learning, provides knowledge transfer, enables integrated understanding, and builds conceptual understanding.

2.2.3 Features of project-based learning

In project-based learning, students’ choice and voice are features of PBL that are not always present in traditional projects. Working in groups is a key factor in project-based learning. The roles of teachers and students are transformed by PBL projects. A clear effort needs to be made to give students meaningful choices and a voice in major project aspects. Technology may be a crucial component of PBL, and it is recommended that it be incorporated into project development. The ability to use technology effectively is an essential skill for the 21st century. Technology should be emphasized in the project, whether through the use of the Internet to research and gather information, the use of video or image editing software, or the creation of blogs for reflection or collaboration. In contrast to many traditional classroom projects, projects that are presented publicly involve presenting the issue and its solution to an audience (Clark, 2017).

According to Codliffe (2017), Students in PBL are generally engaged in active, inquiry-based learning, and the instruction is student-centered. Through PBL, students can take charge, ask questions, make decisions, look at data, think critically, create, and present through PBL. PBL also works with understudies in their substance learning. Learning content is less important
than PBL, and students need to learn how to work in a community and take on social responsibilities. In addition, it helps to create better work habits and attitudes toward learning. Although students do work in groups, they also become more independent because they are receiving little instruction from the teacher.

With Project-Based Learning students, learn skills that are essential in higher education. The students learn more than just finding answers, PBL allows them to expand their minds and think beyond what they normally would. Students have to find answers to questions and combine those using critically thinking skills to come up with answers. Technology allows learners to search in more useful ways, along with getting more rapid results. PBL facilitates students in their content learning (Yimwilai, 2020). Projects enhance deeper learning because students must acquire and apply concepts and ideas.

2.2.4 The steps of project-based learning

- According Nizwardi (2017), the steps of PBL are seven. They are as follows:
  1- The formulation the expected learning outcome.
  2- Understanding the concept of teaching material.
  3- Skills training.
  4- Designing the project theme.
  5- Making the project proposal.
  6- Executing the tasks of projects.
  7- Presentation of the project report.

2.2.5 Project-based learning Assessment

Project-based learning is a common approach to education and learning. Projects are considered to be units of assessment because students work on them. The fact that projects have a professional context is important to us. Project-based learning is frequently selected from a variety of pedagogical options in order to deliver particular kinds of learning experiences, knowledge, or skills. The use of projects can be seen in education across a wide range of subject areas (Hanney, 2018).
The current study results are consistent with previous research results as they proved that PBL is an effective approach to improve students' reading comprehension with different participants as the study of Widiseta (2016), Rocha and María (2017), Friska (2018) and Hambali and Atmowardoyo (2019).

4.1. Results

4.1.1. The first hypothesis

The study hypotheses states that "there is a statistically significant difference at the (0.01) level of significance between the mean scores of the experimental and control groups on the post administration of the overall EFL reading comprehension skills test in favour of the experimental group.

By using t-test to compare the mean scores of the experimental and control groups in the post administration of the overall reading comprehension test and determining the statistical significance of the difference between them, the results were as shown in the following table (9):

Table (9): Differences between the control and experimental groups’ mean scores in the post administration of the overall Reading Comprehension Test

<table>
<thead>
<tr>
<th>Group</th>
<th>No</th>
<th>Mean</th>
<th>S. D</th>
<th>D. F</th>
<th>t-value</th>
<th>Sig</th>
<th>Level of sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>32</td>
<td>17.41</td>
<td>6.18</td>
<td>62</td>
<td>10.03</td>
<td>sig.</td>
<td>0.01</td>
</tr>
<tr>
<td>Experimental</td>
<td>32</td>
<td>29.56</td>
<td>2.95</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* The tabular value of t-test at the level of (0.01) and 62 D.F is (2.62).

In light of the results of the previous table (9), it is clear that the calculated t-value of is 10.03, exceeding its tabular value (2.62) at the degree of freedom 62 with 0.01 level of statistical significance. These results indicate that there is statistical difference between the mean scores of the research participants in the experimental and control groups in the post administration of the overall Reading Comprehension Test in favor of the experimental group. This result can be clarified using the following graphical representation:

Figure (2): The graphical representation of the study control and experimental groups’ mean scores on the post-administration of the overall Reading Comprehension Test
Accordingly, it was confirmed that there was a statistically significant difference at the (0.01) level between the mean scores of the experimental group that was taught using Project – based learning and the control group that received regular instruction in the post-administration of overall Reading Comprehension Test in favour of the experimental group. Thus, the hypothesis was accepted and verified.

In order to calculate the effect size of Project –based learning on developing reading comprehension skills for preparatory stage pupils, the statistical significance alone was not sufficient to determine the importance of the research. Thus, the practical significance and the educational importance of the research results could be clarified by determining the value of the ETA squared and its significance and the value of the effect size and its significance, in order to determine the contribution of the independent variables to the development of the dependent variable while isolating the influence of other extraneous variables from the results of the experiment. The results are illustrated in the following table (10):

Table (10): The effect size of Project –based learning on developing overall Reading Comprehension

<table>
<thead>
<tr>
<th>Group</th>
<th>D. F</th>
<th>t-value</th>
<th>Sig.</th>
<th>η2 value</th>
<th>Effect size</th>
</tr>
</thead>
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<tr>
<td>Experimental</td>
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<td>Sig.</td>
<td>Level</td>
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<td>control group</td>
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</tbody>
</table>
Based on the previous results, it becomes clear that the value of the ETA squared for the results of the participants of the control and experimental groups in overall reading comprehension test exceeds the value indicating the educational importance of the statistical results in educational and psychological research, which is estimated at (0.15); thereby indicating the large effect of Project–based learning on developing reading comprehension.

Further, The effect size also reached (2.55), which is a large level of influence, as the size of the effect is considered large if its value is greater than or equal to (0.8). This indicates the practical and educational significance of the results of the research and the large effect of the independent variables on the development of the dependent variable (reading comprehension skills).

4.1.2 The second hypothesis

The study second hypothesis states that There is a statistically significant difference at the (0.01) level of significance between the mean scores of control and the experimental groups on the post administration of the reading comprehension (3: Critical comprehension skills) Test in favour of the experimental group. By using t-test to compare the mean scores of the participants of experimental and control in the post administration of the reading comprehension (3: Critical comprehension skills) test and determining the statistical significance of the difference between them, the results were as shown in the following table (15):

Table (15): t-test differences between the two groups’ mean scores in the post administration of the reading comprehension (3: Critical comprehension skills) Test

<table>
<thead>
<tr>
<th>Group</th>
<th>No</th>
<th>Mean</th>
<th>S. D</th>
<th>D. F</th>
<th>t-value</th>
<th>Sig</th>
<th>Level of sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>32</td>
<td>4.06</td>
<td>2.15</td>
<td>62</td>
<td>10.58</td>
<td>sig.</td>
<td>0.01</td>
</tr>
<tr>
<td>Experimental</td>
<td>32</td>
<td>9.00</td>
<td>1.52</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* The tabular value of t-test at the level of (0.01) and 62 D.F is (2.62).

In light of the results of the previous table (15), it is clear that the calculated t-value of is 10.58, exceeding its tabular value (2.62) at a degree of freedom 62 with 0.01 level of statistical
These results indicate that there is a statistical difference between the mean scores of the study participants in the experimental and control groups, in the post administration of the reading comprehension (3: Critical comprehension skills) test in favor of the experimental group. This result can be clarified using the following graphical representation:

**Figure (5): The graphical representation of the control and experimental groups ‘mean scores on the post-administration of the reading comprehension (3: Critical comprehension skills) test**

Accordingly, it was confirmed that there was a statistically significant difference at the (0.01) level between the mean scores of the experimental group that was taught using Project – based learning and the control group that received regular instruction in the post-administration of the reading comprehension (3: Critical comprehension skills) Test in favour of the experimental group.

In order to calculate the effect size of Project –based learning on developing reading comprehension (3: Critical comprehension skills) for preparatory stage pupils, the statistical significance alone was not sufficient to determine the importance of the research. Thus, the practical significance and the educational importance of the research results could be clarified by determining the value of the ETA squared and its significance and the value of the effect size and its significance, in order to determine the contribution to the independent variables in the
development of the dependent variable while isolating the influence of other extraneous variables from the results of the experiment. The results are illustrated in the following table:

Table (16): The effect size of Project–based learning on developing reading comprehension (3: Critical comprehension skills)

<table>
<thead>
<tr>
<th>Group</th>
<th>D. F</th>
<th>t-value</th>
<th>Sig.</th>
<th>η² value</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>62</td>
<td>10.58</td>
<td>0.01</td>
<td>0.64</td>
<td>Sig.</td>
</tr>
<tr>
<td>Experimental</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.69</td>
</tr>
</tbody>
</table>

Based on the previous results, it becomes clear that the value of the ETA square for the results of the participants of the control and experimental groups in reading comprehension (3: Critical comprehension skills) test exceeds the value indicating the educational importance of the statistical results in educational and psychological research, which is estimated at (0.15); thereby indicating the large effect of Project–based learning on developing Reading Comprehension (3: Critical comprehension skills).

Further, The effect size also reached (2.69), which is a large level of influence, as the size of the effect is considered large if its value is greater than or equal to (0.8). This also indicates the practical and educational significance of the results of the research and the high effect of the independent variables on the development of the dependent variable.

4.1.5. Discussion of the results

The results of both experimental and control groups on the reading comprehension post-test showed that the project-based learning approach had a large effect on developing the experimental group pupils' overall reading comprehension skills as well as each of the reading comprehension sub-skills of first year preparatory stage pupils. They revealed that there was a significant difference between the experimental and the control groups' mean scores in the post-test of the overall reading comprehension skills in favor of the experimental group. The pupils of the experimental group exhibited improvement in overall as well as in each of reading comprehension sub skills that included (1: Literal comprehension skills - 2: Inferential comprehension skills - 3: Critical comprehension). Such improvement and development are due
to using of project-based learning. The pupils’ progress and development of reading comprehension skills wear due to various reasons. Following are some of them:

1- Using project-based learning approach encouraged the pupils to read and carry out the tasks and activities provided for pupils to practice.

2- The pupils were provided with plenty of opportunities that enhanced their reading skills and made them interact with the reading texts.

3- Project-based learning created a good environment that helped pupils improve their EFL reading comprehension.

4- Project-based learning approach created a more-student-centered environment in the reading class where pupils practice reading individually and in groups.

5- Co-operative learning helped them work together and benefit from each other. They could confer and discuss their reading comprehension together.

6- Encouragement and positive feedback on the part of the researcher helped the pupils read without any fear.

7- Providing several activities that appeal to the pupils' interest in the reading material they are reading.

8- Using formative assessment represented in exercises and questions at the end of each session and using summative assessment represented in the reading skills posttest constituted an important factor that benefited the pupils in the reading class.

9- Project-based learning approach improved the teacher-student relationship and transformed the teacher into a guide, facilitating the teaching and learning of reading skills. As a result, the participants of the experimental group almost mastered the EFL Reading Comprehension skills and showed interest and motivation towards EFL reading comprehension skills. They also became competitive and active participants in pair and group work activities.

Such results are consistent with other study findings that supported the large effect of Project-based learning approach on developing EFL Reading Comprehension skills for first year, preparatory stage pupils as Rahimi and Sadeghi (2015), Kavlu (2016), Hambali, Rahman and Atmowardoyo (2019), Andriansah, Fitriyani and Fadloeli (2019), Kartika (2020), Sari and Prasetyo (2021), Hartia (2022), Lumanauw, Liando and Andries, (2022).
All of these studies confirmed that PBL approach had a large effect on developing pupils' EFL reading comprehension skills.

5.4. Recommendations

In accordance with the results and conclusions of the current study, the following recommendations were presented:

1. EFL teachers should increase the students' role in reading classes and minimize their own role.
2. EFL reading comprehension skills should be given more attention in our EFL classes. More time and effort should be exerted to develop the reading skill and sub-skills.
3. Pupils should be aware of the different genres of reading comprehension skills and their characteristics.
4. Project-based learning approach is recommended to be implemented in teaching EFL in general and teaching reading skills in particular.
5. Providing a good atmosphere helps EFL pupils to learn and improve their achievement.
6. As the reading comprehension skill is so important, it should receive the appropriate attention it deserves. So, more focus should be given to it in different educational stages.
7. More teachers who teach at the preparatory stage should be encouraged to use the project-based learning regularly.
8. Teacher should be provided with specific training programs to use project-based learning approach to teach English language skills effectively.
9. More consideration should be taken to enhance the pupils' awareness of the reading comprehension skills through implicit and explicit instruction in the various stages of education depending on the students’ ages and levels.
10. EFL teachers should arouse students' interest and schemata in EFL classes.

5.5. Suggestions for further Researcher

The following suggestions can be considered for further research:

1. The effectiveness of the students' learning strategies in developing other language skills such as oral communication skills.
2. Investigating the effect of using project-based learning approach on developing Preparatory stage Pupils’ EFL writing performance.

3. Further research is needed to replicate the present study with other stages at different types of participants.

4. Using other student-centered to develop EFL reading comprehension skills.

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