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The Effect of RADEC Learning Model on EFL University Students' Creative Reading Skills

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A B S T R A C T

Creative reading skills are essential for EFL university students in modern education. However, the effect of RADEC learning model on enhancing these skills remains unclear. Therefore, this study aims at finding out the effect of applying RADEC learning model on EFL students' creative reading skills and whether there is a statistically significant difference between students' achievement at recognition and production levels in the posttest. A pre-posttest two-equivalent-group design is used. The sample consists of 60 second-year students from the Department of English, College of Education for Humanities, University of Tikrit, during 2025–2026. Participants are randomly assigned equally to an experimental group and a control group. The groups are equalized in age, parents' educational level, previous achievement in English, and pretest scores. Both groups are taught the same material for eight weeks by the researcher. The experimental group uses RADEC learning model, while the control group uses the conventional method. An achievement posttest is constructed, validated, and applied. Finally, the Findings reveal that RADEC model is significantly more effective than the conventional method in enhancing EFL students' creative reading skills. Based on the results, several conclusions, recommendations, and suggestions for future studies are presented.

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أثرُ أنموذجِ التعلّم RADEC على مهاراتِ القراءةِ الإبداعية لدى طلبةِ الجامعة الدارسين للغة الإنكليزية لغةً أجنبيةً

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الخلاصة:

تُعَدّ مهارات القراءة الإبداعية ضرورية لطلبة الجامعات الدارسين للغة الإنكليزية لغة أجنبية في التعليم

الحديث. ومع ذلك، لا يزال أثر نموذج التعلّم RADEC في تنمية هذه المهارات غير واضح. لذلك تهدف هذه الدراسة إلى الكشف عن أثر تطبيق نموذج التعلّم RADEC على مهارات القراءة الإبداعية لدى طلبة اللغة الإنكليزية لغة أجنبية، وكذلك معرفة ما إذا كان هناك فرق ذو دلالة إحصائية بين تحصيل الطلبة عند مستوى التعرف ومستوى الإنتاج في الاختبار البعدي. أُستُخدم تصميم تجريبي ذو اختبار قبلي–بعدي لمجموعتين متكافئتين. وتكوّنت عينة الدراسة من ٦٠ طالباً من طلبة المرحلة الثانية في قسم اللغة الإنكليزية، كلية التربية للعلوم الإنسانية، جامعة تكريت، للعام الدراسي ٢٠٢٥–٢٠٢٦. وقد وُزِّع المشاركون عشوائياً وبالتساوي على مجموعتين: مجموعة تجريبية وأخرى ضابطة. وتمت موازنة المجموعتين في العمر، والمستوى التعليمي للوالدين، والتحصيل السابق في اللغة الإنجليزية، ودرجات الاختبار القبلي. دُرِّست المجموعتان المادة نفسها لمدة ثمانية أسابيع من قبل الباحث. حيث استُخدم نموذج التعلّم RADEC مع المجموعة التجريبية، في حين استُخدمت الطريقة التقليدية مع المجموعة الضابطة. وقد أُعِدَّ اختبار تحصيلي بعدي وتم التحقق من صدقه وتطبيقه على المجموعتين. وأخيراً، أظهرت النتائج أن نموذج RADEC كان أكثر فاعلية بفارق ذي دلالة إحصائية من الطريقة التقليدية في تنمية مهارات القراءة الإبداعية لدى طلبة اللغة الإنكليزية لغة أجنبية. وفي ضوء النتائج، قُدِّمت مجموعة من الاستنتاجات والتوصيات والمقترحات لدراسات مستقبلية.

الكلمات المفتاحية: مهارات القراءة الإبداعية، اللغة الإنكليزية لغة أجنبية، الأثر، نموذج التعلّم RADEC، طلبة الجامعة.

يعبر الباحث عن شكره وامتنانه لمكتبة جامعة تكريت لرفد البحث بكل ما هو جديد ومعتمد في الحقل المعرفي الخاص بالبحث

Section One:

1.1 Statement of the Problem

Reading is one of the four English language skills which needs to be learned. Since reading is a tool of communication, students need to be taught how to systematically and effectively formulate and organize their thoughts to achieve proficient reading (Mohammed & Hameed, 2024). Moreover, it is a vital tool for learning and comprehension so as to solve problems. In other words, reading enriches human thinking, creativity and fosters building the personality of man (Kasem et al., 2022).

Reading is a creative activity. Everybody reads the same material differently when it comes to creative reading. Everyone shares his or her unique set of viewpoints and experiences. Creative reading enables learners to understand the subject matter and words correctly, comprehend literary meanings, integrate

past experiences with ideas, discover covert meanings and connections through symbols develop new ideas and apply these to new fields. Creative reading acts as an effective method that improves learners' attitudes towards reading, decreases reading anxieties, improves comprehension during the reading process, teaches multidimensional thinking, develops imagination, and creates a culture of reading (Swann & Carter, 2011).

Despite its significance, creative reading remains an overlooked aspect of reading education especially at university level. Previous studies have shown a significant weakness in creative reading skills among EFL students such as (Yurdakal, 2019; Qudah & Sa'di, 2020; Kasem et al., 2022) which confirm that there is a weakness in students level of EFL creative reading skill as a result of using traditional models, methods and techniques used by teachers in teaching creative reading skills. This highlights the need for effective instructional models and strategies to foster EFL university students' creative reading skills.

One of the learning models that can respond to this need is RADEC model (Read, Answer, Discuss, Explain, and Create). RADEC model encourages students to be active, grow their skills and abilities in collaborating, communicating, and understanding the material well (Andini & Fitria, 2020). It emphasizes placing students at the center of classroom teaching and learning activities, and nurtures the acquisition of 21st-century skills, particularly critical thinking, problem-solving, creativity, communication, and collaboration (Sopandi & Handayani, 2019).

Therefore, the problem of the current study is related to the lack of effective models and approaches that explicitly target creative reading skills , and the current study attempts to examine the effect of RADEC learning model on EFL university students' creative reading skills.

1.2 Aims of the Study

This study aims at:

1. Finding out the effect of applying RADEC learning model on EFL university students' creative reading skills.
2. Finding out if there is any statistically significant difference between students' achievement in creative reading skills at the recognition and the production levels in the posttest.

1.3 Hypotheses of the Study

The following hypotheses are put forward in order to be verified throughout the experiment of the current study:

1. There are no statistically significant differences in the mean scores of the experimental group which is taught by using RADEC learning model and that of the control group which is taught by using the conventional method in creative reading skills.
2. There are no statistically significant differences between the mean scores of the students in the experimental group achievement in creative reading skills at the recognition and the production levels in the posttest.

1.4 Limits of the Study

The present study is limited to:

1. Iraqi EFL second-year university students at Tikrit University / College of Education for Humanities / English Department.
2. The academic year 2025–2026 (First semester).
3. The textbook of Select Readings: Teacher-Approved Readings for Today's Students.
4. RADEC learning model by (Sopandi, 2017).

1.5 Value of the Study

The current study is likely to make major contributions to the following:

1. For EFL Students, it improves their creative reading skills and provides them with less stress environment that helps them practicing creative reading skills.
2. For EFL Teachers, it provides them with guidelines for using RADEC learning model to enhance students' creative reading skills.
3. For EFL researchers, it guides other researchers to conduct further studies on developing other EFL skills through using RADEC learning model.

1.6 Definitions of Basic Terms

1.6.1 RADEC Learning Model

RADEC learning model is a student-centered model that emphasizes implementation of a series of steps aim at improving conceptual understanding, collaboration, problem solving, creativity, develop ideas and make improvements (Pohan et al., 2019).

1.6.2 Creative Reading Skills

Creative reading skills encompass an interactive engagement between the reader and the text, promoting the development of connections and alternative interpretations influenced by prior experience, thereby facilitating the

enhancement and modification of the text's content through diverse ways (Al Qatnani, 2017).

1.7 Plan of the Study

To achieve the aims of the present study, the following steps will be followed:

1. Presenting a theoretical background about the variables of the study.
2. Selecting randomly a sample of sixty students of second-year EFL students from the Department of English Language, College of Education for Humanities, University of Tikrit. And dividing them into experimental group and control group.
3. Equalizing the two groups in different variables: students' age, parents' educational level, students' scores in the previous year examination and the pretest.
4. Constructing an achievement posttest
5. Teaching the experimental group using RADEC learning model, while teaching the control group using the conventional method.
6. Subjecting the two groups to the constructed achievement posttest.
7. Collecting the required data and analyze the data statistically by using the suitable tools
8. Drawing conclusions, and providing recommendations and suggestions based on the obtained results.

Section Two:

2.1Theoretical background

2.1.1 RADEC Learning Model

2.1.1.1 Concept of RADEC Learning Model

RADEC learning model stands for read, answer, discuss, explain, and create. The RADEC learning model is first introduced in 2017 at an international conference in Kuala Lumpur, Malaysia, by Dr. Paed Wahyu Sopandi (Rohmawatiningsih et al., 2021). The RADEC learning model is a student-centered learning model that involves a series of activities design to help students understand concepts, collaborate, solve problems, and produce ideas or works (Sopandi, 2019).

The RADEC learning model is developed in response to the needs of 21st-century education, which requires students to possess 4C skills: Critical Thinking and Problem Solving, Creativity, Communication Skills, and the Ability to Work Collaboratively. The RADEC learning model is one of the learning models that requires human resources to have high-level skills (Sopandi, 2017).

The RADEC learning model views all students as having the potential and capacity to learn independently and acquires higher learning to master knowledge and skills (Sopandi, 2017). The RADEC learning model serves as a solution to address learning problems that often occur in educational practice. The implementation of this model ensures that students are equipped with cognitive, affective, and psychomotor skills needed in the 21st century (Sopandi, 2021).

2.1.1.2 Characteristics of RADEC Learning Model

Sopandi (2019) mentions the following characteristics:

1. The RADEC learning model effectively motivates students to engage actively and creatively in the learning process.
2. Students can use the RADEC learning model to make connections between the subject matter being studied and their prior knowledge.
3. It provides students with the opportunity to engage in pre-learning tasks before starting a lesson, allowing them to understand the material more deeply.

2.1.1.3 Steps of RADEC Learning Model

Sopandi (2017) mentions the following syntax of RADEC learning model as followed:

a. Read: Students are provided with information about the learning topics that will be covered. At this step, students read information from various sources (Fuziani et al., 2021). Pre-learning questions is provided to the students to guide participants in understanding the information. Pre-learning questions are proposed before the teacher begins the teaching and learning process using the teaching materials. Students must answer the questions after their reading activities. Their reading activities is carried out independently by students outside the classroom (Sopandi, 2021).

b. Answer: Students answer pre-learning questions based on the knowledge gains from reading activities, pre-learning questions are arranged in the form of a worksheet (Fuziani et al., 2021). Students answer pre-learning questions outside of class or at home independently before the class session is conducted (Januaripin, 2024).

c. Discuss: At this step, students learn in groups to discuss their answers to pre-learning questions (Fuziani et al., 2021). Teachers need to motivate students to succeed in completing specific tasks from the worksheet, providing guidance to students who have not yet mastered them (Azis & Asih, 2022).

d. Explain: Students at this step conduct presentation activities. Student representatives who have mastered learning indicators can explain the important concepts in advance of class. In this step, the teacher also ensures that the presenter explains correctly and that the other students understand the explanation (Sopandi, 2021).

e. Create: At this step students assign to create something based on the material they have learned in the previous steps. The teacher facilitates students to learn and apply their mastered knowledge creatively. When teachers notice that students are struggling to generate creative ideas, they need to inspire them (Sopandi, 2021).

2.1.1.4 Advantages of RADEC Learning Model

Sopandi (2021) identifies the following advantages of the RADEC Learning Model:

1. Developing students' reading comprehension skills.
2. Developing students' skills to communicate verbally or in writing.
3. Enhancing students' creativity to use their knowledge in looking for research ideas, problem-solving, or projects relevant to everyday life.
4. Optimizing teacher effectiveness in helping students.
5. Improving students in the need for interaction with other students in the learning class.

2.1.1.5 Limitations of RADEC Learning Model

The limitations of the RADEC learning model is mentioned by Sopandi (2021) as follows:

1. It takes quite a long time, especially for discussion and explaining steps.
2. It needs to prepare a reading text as a learning reference for student independence especially if they don't have a textbook.
3. It can only be applied to students who have mastered the skills of reading.
4. It requires teachers' abilities to manage classes, facilitate discussion activities, and create products.
5. It is necessary to make adjustments and develop teachers' and students' capabilities to implement the RADEC learning model.

2.1.2 Creative Reading

2.1.2.1 Concept of Creative Reading

Creative reading is one of the highest processes that comes after literal and critical reading. It occurs when the reader tries to extend a passage beyond the limits provided by the author. The reader initiates fresh ideas, feelings or products that can be applied. Thus, creative reading leads a reader to go beyond

the text, recognize reasons of contradiction in the text, and synthesize information and suggest conclusions (Kasem et al., 2022).

Creative reading is a part of all successful reading experiences. In order to creatively read, a person should be a capable reader at a number of levels, from simple decoding of words to building of complex mental worlds (Moorman and Ram,1994).

Creative reading involves activities that enable readers to focus on what they read (Kirmizi, 2017). Moreover, creative reading activities serve as a powerful means in fostering students' interest in reading and inspiring them to explore a wide range of texts. These activities are not limited to individuals but also thrive within group settings (Ruth & Marilyn, 2011).

Creative reading involves the application of creative thinking skills during the reading process since creative thinking is clarified as a mental action used to construct thoughts (Syahrin et al., 2019). Creative thinking is a skill that allows individuals to examine things from new perspectives and multiple angles (Ali & Mousa, 2023).

2.1.2.2 Importance of Creative Reading

Creative reading promotes students to explore any subject of their personal interest. Creative reading aims to inspire students, stimulate their imaginative ideas, and foster alertness within their minds. Moreover, it assists students in understanding how grammar and style contribute to effectively conveying the writer’s message to the reader (Maley & Peachey, 2015).

Creative reading fosters learners' ability to discover new insights, relate texts to their personal experiences, and explore beyond the presented narrative, thereby enhancing their linguistic understanding, cultural literacy, and analytical skills (Baki ,2020).

2.1.2.3 Types of Creative Reading

Creative reading can be divided into two main types:

A. **Convergent creative reading**, concentrates on finding points of agreement between the writer's and the reader's ideas. The reader matches and combines their thoughts with the author's in order to find solutions to current issues (Smith, 1965).
B. **Divergent creative reading**, which is the primary objective of creative reading, it is intended to produce ideas that are unusual, distinctive, and creative by using the author's concepts as a starting point in order to generate fresh viewpoints and thoughts (Smith, 1965).

2.1.2.4 Characteristics and Attributes of Creative Readers

Schunr and Maramor (2009) claim that the creative reader possesses several characteristics that distinguish them from the average reader. These characteristics are as follows:

a. Using numerous and unexpected phrases and words when expressing the meaning of a text.
b. Able to read fluently and comprehend the text.
c. Can accurately recall the information they have read.
d. Analyze and evaluate the information they have read about.
e. Can focus on the topic for an extended period.
f. Analyze the text and its underlying ideas, and to understand the implicit meanings in the language.
g. Can read texts at a higher level than the average reader.

2.1.2.5 Creative Reading Skills

There are several classifications of creative reading skills. Jordanous (2012) outlines fourteen components of creativity, including dealing with ambiguity, thinking and assessing, actively participating, and creating conclusions.

Moorman (2013) mentions the following skills for creative reading, these skills involve, thinking while reading, guessing what could happen while reading a text, differentiating between facts and opinions, communicating with the writer through written text, identifying and selecting the important ideas, understanding deeply to solve problems.

As for Kasem et al. (2022), Creative reading skills include the following: Interpreting the referents in a variety of words, suggesting different titles for a text, getting several synonyms for one word , identifying the main idea, suggesting questions for given answers, predicting what will happen next, summarizing the text, inferring meaning of the word, expecting the writer's purpose of the passage, suggesting different solutions for a problem, guessing the meaning of unfamiliar words.

It's worth mentioning that the current study has been adopted Kasem et al. (2022), framework of creative reading skills, only one skill is excluded "Guessing the meaning of unfamiliar words" due to its basic nature and limited relevance to the academic level of university students.

2.1.2.6 Barriers to the Development of Creative Reading Skills

Rayari (2013) states that one of the challenges in teaching creative reading skills is that foreign language teachers are unwilling to teach or develop it due to its inherent difficulties. Furthermore, teachers fail to recognize the significance of

developing creative reading skills and the various methods that may be employed for this purpose.

Smith (1965) and Glăveanu (2019) identify the following challenges:

1. Teachers require to inculcate in their students the habit of reading creatively.
2. An adequate amount of space and theoretical consideration is not given to creative reading in textbooks.
3. Creative reading needs unique educational approaches and specialized techniques.
4. Creative reading is rarely discussed in educational texts, and when it did, it is sometimes confused with critical reading.

2.1.2.7 Students' Roles in Creative Reading Classes

Readers can make the act of reading more creative by engaging in creative reading and responding to texts. This method pushes them to try new methods of thinking, behaving, and understanding (Masoud, 2014). Holden (2004) suggests many useful steps.

1. Determine the problem or issue in the text and how the necessary information is provided.
2. Ask several questions regarding the content in order to explain and define the material appropriately.
3. Combine the information in the text with other sources or prior knowledge to produce new ideas and solutions.
4. Increase their comprehension of the topic by researching other sources and efficiently organizing their views.

2.1.2.8 Teacher's Role in Teaching Creative Reading Skills

According to Sallam (2024), teachers play a number of roles that make them the foundation of a good education, including:

1. Facilitators of knowledge Construction: Teachers assist students in creating their own knowledge via active participation and investigation rather than just imparting knowledge.
2. Problem Solvers: By implementing creative teaching techniques and creating a positive learning atmosphere, teachers help students overcome the difficulties they encounter in reading classes.
3. Teachers promote critical thinking: By encouraging students to analyse, evaluate, and develop new ideas while reading.
4. Motivators: Teachers help students connect with the subject more deeply and improve their reading habits by encouraging a love of reading and creativity.

3.0 Section Three

3.1 Research Design

The experimental design is a plan for the processes that allow the researcher to test hypotheses and reach reliable conclusions about the relationship between dependent and independent variables (Best & Kahn, 2006).The design of the current study is entitled "The pre-posttest two, Equivalent- Group Design".

3.2 Population and Sample of the Study

The population of the current study consists of 140 second-yearEFL students enrolled in the English Department, College of Education for Humanities, Tikrit University, during the academic year (2025–2026). The sample includes 60 students, representing (43%) of the population. They are randomly selected from sections (A) and (B); section (A) is assigned as the experimental group 30 students, while section (B) is assigned as the control group 30 students. Additionally, (20) students are selected for the pilot study.

3.3 Equivalence of the Two Groups

In order to ensure equivalence between the two groups, a number of variables that might affect students' achievement were controlled. These variables included students' age, parents' educational level, students' English scores from the previous academic year, and their pretest scores (Good et al., 1976). Therefore, the two groups were equalized with respect to students' age, fathers' and mothers' educational levels, students' previous-year English scores, and their pretest scores.

3.4 Instructional Material

Both groups are taught the same instructional material from Select Readings: Teacher-Approved Readings for Today's Students for second-yearstudents. The experimental and control groups study the first and second chapters, and both are taught by the researcher. The experiment is conducted during the first semester of the academic year (2025–2026), from November 2 to December 28, 2025, lasting eight weeks. The control group is taught using the conventional method, whereas the experimental group is taught using the RADEC learning model.

3.5 Construction of an Achievement Test

In the current study, an achievement posttest is the instrument which has been constructed and applied to achieve the aims of the study. The posttest of the current study includes four questions, each question is composed of different items. Question one is to choose the correct answer. The total items of this question are five items. The total scores of the first question is twenty marks,

each item has four marks, the correct answer gets four marks while the incorrect answer gets zero. It deals with the recognition level. Question two is to write whether the item is true or false. The total items of this question is five items.The total scores of the second question is twenty marks, each item has four marks, the correct answer gets four marks while the incorrect answer gets zero. It deals with the recognition level. Question three is asking the students to answer the questions in their own words. The total items of this question are five items. The total score of this question is thirty marks. It deals with the production level. Question four is to read the passage and answer the questions. The total items of this question are five items. The total score of this question is thirty marks. It deals with the production level.

3.6 Scoring Scheme of the Posttest

The posttest sample includes four questions. It's scored out of 100Ms. Forty marks are specified for questions at the recognition level, which are Q1 and Q2. Sixty marks are specified for the questions at the production level, which are Q3 and Q4. These questions have been scored by a scoring committee that consists the researcher and one other instructor. Q3 and Q4 are scored in terms of specific criteria, namely content**,** grammar**,** mechanics. In all questions each criterion is marked as; very good, good, or weak.

3.7 Validity of the Test

In general, validity refers to the test and its components' ability to measure what is supposed to be measured (Henning, 1987). There are two significant types of validity: face validity and content validity. To confirm the face validity of the test, it has been exposed to a jury of experts and specialists in English teaching methods. All of the notes and revisions suggested by jurors have been considered. content validity is achieved through the table of specifications.

3.8 Pilot Administration of the Posttest

A pilot study is an initial study undertaken using a sample from the experiment sample to familiarize the researcher with any challenges that may arise throughout the test (Good, 1973). The purpose of doing a pilot study is as follows: a. determine whether the test items are suitable. evaluate test instructions for clarity and determine time required for examinees to answer questions.

Therefore, a random sample consists of twenty students in the second-stage/ Colleges of Education/ English Department/ University of Tikrit are involved in the pilot study. The test has been administered on the 17th of December,2025. After administering the pilot study the researcher found out that:

1. The test questions and items are related to teaching material which is taught according to RADEC learning model.
2. There is no serious ambiguity in the instructions of the posttest.
3. The time required to answer the posttest has ranged between 50-60 minutes, with an average completion time of 60 minutes.

3.9 Reliability of the Posttest

Reliability refers to the consistency or stability of the scores produced by a test (Bruton et al., 2000). In this study, internal consistency reliability is measured using Cronbach's Alpha, which is a common method for assessing the reliability of test items (Tang et al., 2013). Generally, an alpha coefficient of (0.70–0.80) or higher is considered acceptable (Brown, 2002). The achievement posttest obtains a Cronbach's alpha coefficient of (0.92), indicating a high level of reliability.

3.10. Difficulty Level

Item difficulty is defined as the proportion of students who answer an item correctly (Rosas, 2000). It indicates how easy or difficult a test item is. According to Brown (2010), acceptable item difficulty ranges from 0.15 to 0.85. In this study, the difficulty level of the posttest items ranges from 0.30 to 0.73.

3.11 Discrimination Power

Discrimination power means calculating the degree to which a particular item's results correspond with the results of the entire test (Alderson, 1995). Item discrimination refers to the degree to which an object makes a difference between good and poor testers. An object has good power of discrimination if it collects the right answers from good students and the wrong answers from bad students. High power of discrimination is close to 1.0, while no power of discrimination is nil (Brown, 2010). In this study, the posttest item discrimination ranges from 0.29 to 0.71.

3.12 Final Administration of the Posttest

After verifying and ensuring the validity, reliability, difficulty level, and discrimination power of the posttest, it has been applied on the 28th December, 2025 for both the experimental and the control group. The test papers have been distributed to the testes who are asked to read the questions carefully and write down their answers on their test papers within the limited time of the test. Then all the test papers have been collected and scored according to the designed scoring scheme.

Section Four

4.1 Data Analysis and Results

4.1.1 Results Related to the First Hypothesis

Comparison between the Mean Scores of the Experimental Group and that of Control Group in the Posttest

To determine whether there is a significant difference between the mean scores of the experimental group and the control group in creative reading skills posttest, statistics show that the mean score of the experimental group is 72.33, while that of the control group is 59.16. Using the t-test formula for two independent samples, the calculated t-value is 5.154, and the tabulated t-value is 2.00 at a degree of freedom of 58 and a level of significance is 0.05. This indicates that there is a significant difference between the two groups, in favor of the experimental group.

Thus, the first hypothesis, which states that *"**there are no statistically significant differences in the mean scores of the experimental group which is taught by using RADEC Learning Model and that of the control group which is taught by using the conventional method in creative reading skills,"*** is rejected, as shown in table (13).

Table (13)

Means, Standard Deviation, and t-Values of the Two Groups in the Posttest

Groups	No. of students	Mean	SD.	T-Value		DF	Level of Significance
EG.	30	72.33	11.59	Calculated	Tabulated	58	0.05
CG.	30	59.16	7.82	5.154	2.00		

that of the production level in the posttest for the experimental group are calculated and compared to determine whether there is a significant difference between them. The results indicate that the mean score at the recognition level is 34.73, while the mean score at the production level is 37.33. The t-test formula for two paired samples is applied, revealing that the calculated t-value is 1.098, and the tabulated t-value is 2.045 at 29 degrees of freedom and a 0.05 level of significance. This indicates that there is no significant difference in performance between the two levels of students in the posttest.

Thus, the second hypothesis, which states that *"**there are no statistically significant differences between the mean scores of the students in the experimental group achievement in creative reading skills at the recognition and the production levels in the posttest,"*** is accepted, as shown in table (14).

Table (14)

Students' Mean Scores, Standard Deviation, and T-Value of the Experimental Group Performance at the Recognition and the Production Levels

Group	No. of students	Mean	SD.	T-Value		DF	Level of Significance
Recognition	30	34.73	4.99	Calculated	Tabulated	29	0.05
Production	30	37.33	11.15	1.098	2.045		

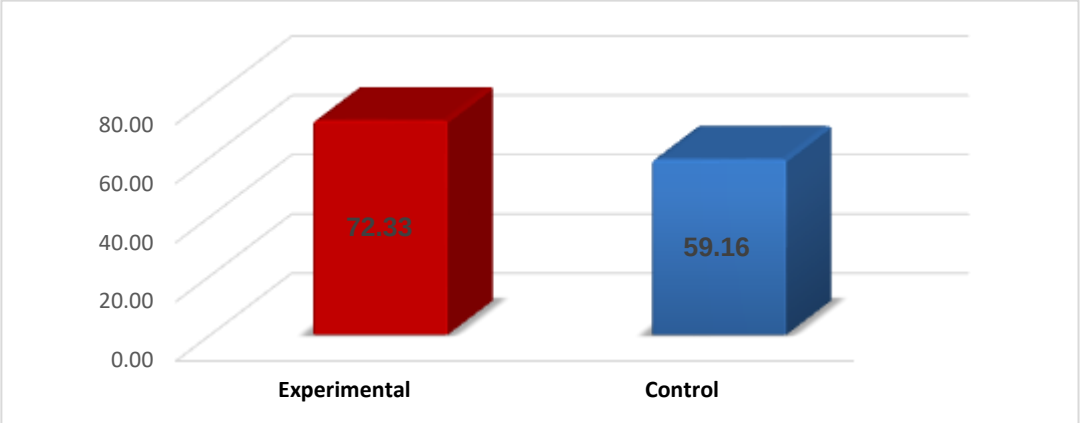
4.2 Discussion of the Results

The statistical analysis of the data indicates that the achievement of the experimental group in the posttest in creative reading skills is significantly higher in average compared to that of the control group. The findings confirm that the RADEC learning model has a positive effect in enhancing EFL university students' creative reading skills than the conventional method.

Through looking to the results of the first hypothesis indicates statistically significant differences between the mean scores of the EG and CG in favor of the EG in creative reading skills posttest. The EG achieved higher mean score of (72.33), compared to the achieved mean scores of CG which is (59.16). And the calculated t-value reached (5.154), which is much higher than the tableted value (2.00) at DF of (58) and a significance level of (0.05). This confirms the success of RADEC learning model in enhancing student's creative reading skills. As shown in figure below (3).

Figure (3)

Mean Scores and Standard Deviation of the Two Groups Achievement in the Posttest

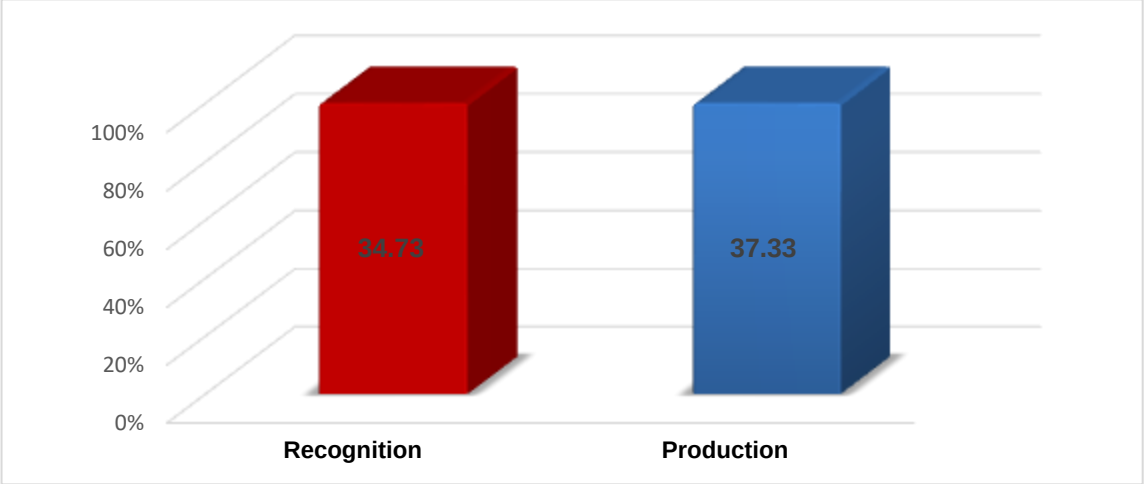


The results of the second hypothesis indicates that the mean score of the EG on the posttest at the recognition level is (34.73) while the mean score at the

production level is (37.33). The calculated t-value was (1.098), which is less than the tableted t-value of (2.045) at a significance level of (0.05) and (29) DF. This clearly indicates the absence of a significant difference between the (recognition/production) level among the EG. As shown in figure (4) below.

Figure (4)

Recognition and Production Levels at the Posttest



Section Five

5.1 Conclusions

Based on the results of the current study the following conclusions can be formed:

1. The RADEC learning model has significant role in developing EFL University students' creative reading skills. The results showed that students in the EG achieved significantly higher scores on the posttest compared to students in the CG.
2. The RADEC learning model helps students achieve relative balance between recognition and production levels in creative reading skills in the EG. The results of the posttest showed no statistical significant differences among them.
3. Through the stages of RADEC learning model creative reading becomes a structured process, not a random activity.
4. Each steps of the model encourages research and analysis that emphasize students understanding of the problems more deeply.

5.2 Recommendations

In the light of the findings and drawn conclusions of the current study the following recommendations are suggested:

1. EFL teachers at the university are advised to use RADEC learning model to support their teaching methods and techniques.

2. The RADEC learning model should be used in combination with other learning models to foster learners' independent readers.
3. More emphasis should be placed on developing students' EFL creative reading skills in general and at universities in particular.

5.3. Suggestions for Future Studies

The following topics are suggested, for future studies:

1. Conducting a study that investigate the effect of RADEC learning model in enhancing creative writing skills among EFL university students.
2. The role of RADEC learning model on EFL university students' speaking skills.
3. Studying the effectiveness of RADEC learning model on developing EFL communication skills for students in different stages of education

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