



Developing reading comprehension of the English language for UCST students by Flipped Classroom

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تنمية الفهم القرائي للغة الانجليزية لطلاب UCST بواسطة الصف المنعكس

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Abstract:

This study aimed to reveal the effectiveness of using the strategy of the Flipped Classroom in the development of the reading skills of the English language among the students of the Faculty of Science and Technology (UCST) in Palestine. The researcher relied on the semi -experimental curriculum on a sample of 80 students, which was divided into two groups: experimental studied using the reflected class strategy, and a control in the traditional way. The study included the application of the reading skills test before and after the experiment to measure the effect of the strategy. The results showed that there are statistically significant differences in favor of the experimental group, as the strategy contributed to the development of reading understanding skills (craftsmanship, deductive, critical, and creative) and increasing interaction between students and educational content. The results also demonstrated the effect of students' learning after a period of the end of the experiment. The study recommended the need to adopt a class strategy reflected in university education and train teachers on it, in addition to developing educational content that supports self -learning and student interaction using modern technology.

Keywords: Flipped Classroom, English Language, Reading Skills, Semi-Experimental Curriculum.

الملخص

هدفت هذه الدراسة إلى الكشف عن فاعلية استخدام استراتيجية الصف المنعكس في تنمية مهارات القراءة باللغة الإنجليزية لدى طلبة كلية العلوم والتكنولوجيا في فلسطين. واعتمد الباحث على المنهج شبه التجريبي على عينة مكونة من 80 طالباً وطالبة، تم تقسيمهم إلى مجموعتين: تجريبية درست باستخدام استراتيجية الصف المنعكس، وضابطة درست بالطريقة التقليدية. وتضمنت الدراسة تطبيق اختبار مهارات القراءة قبل وبعد التجربة لقياس أثر الاستراتيجية. وأظهرت النتائج وجود فروق ذات دلالة إحصائية لصالح المجموعة التجريبية، حيث ساهمت الاستراتيجية في تنمية مهارات فهم القراءة (الحرفية، والاستنتاجية، والنقدية، والإبداعية) وزيادة التفاعل بين الطلبة والمحتوى التعليمي. كما أظهرت النتائج تأثير تعلم الطلبة بعد فترة من انتهاء التجربة. وأوصت الدراسة بضرورة تبني استراتيجية الصف المنعكس على التعليم الجامعي وتدريب المعلمين عليها، بالإضافة إلى تطوير محتوى تعليمي يدعم التعلم الذاتي وتفاعل الطلبة باستخدام التكنولوجيا الحديثة.

الكلمات المفتاحية: الصف المنعكس، اللغة الإنجليزية، مهارات القراءة، المنهج شبه التجريبي.

Introduction

The educational process in Palestine is moving towards the use of effective technology teaching methods and strategies in the fields of learning and teaching different academic subjects in general, and in the field of English language and its skills in particular, in order to upgrade the level of learning of qualitative students to become more successful and effective; If they want them to acquire more advanced linguistic skills. In this regard, some studies have confirmed that the role of the teacher and the teaching strategies used are among the most prominent foundations on the effective learning process; Because the quality and high teaching teacher gives opportunities to take students in educational activities as long as possible (Al -Omari & Muqabala, 2020).

The English language is one of the most important tools for acquiring science, knowledge and interaction with the cultures of advanced nations and following up on the new scientific and technical development, which is the tool that students can use in communicating with English language speakers, and through social communication sites, and therefore the specific linguistic means For students to face the situations that require him to use them, whether in learning situations or in his daily life and his interaction with others, therefore students teaching the English language in general and the skills of understanding because of the reading texts that must be granted the utmost importance at the various levels of study in the various academic stages.

Teaching the English language aims to provide students with the basic skills needed in reading, writers, speaking and assimilation, and providing them with some vocabulary, linguistic structures, ideas and meanings to employ them in their daily lives, as it is a tool for gaining various and multiple experiences, and it is one of the important tools in achieving the goals of the educational process (Abu Salma, 2015), and from here, the English language can be seen as not only a study subject, but it is a means of intellectual, cognitive, social and cultural communication, and from this standpoint, teaching English in schools is not an end in itself, but rather It is a way to develop the student's ability to understand what he read and learn in the English language, enabling him to interact with the language experiences and activities contained in reading texts (Al -Nashwan, 2016).

Therefore, the development of reading understanding skills is necessary for the progress of students learning for other subjects, which is supposed to be followed up and evaluated from time to time so that the reasons for their weakness in acquiring their first appearance shows; So the treatment is easy and affordable, and this can be done with appropriate educational means and programs, and this is assumed that there is no anxiety when the level of some students declines in the skill of understanding the reader in English texts, because the treatment of reading weakness is possible in any educational stage if it is available to him The appropriate instructional plans and programs, and its discovery early makes the treatment easier in terms of effort, time and interest for the student (Al -Khazalla, 2021).

Problem statement

There is a strong relationship between understanding and reading, so if the student reads, he needs to understand what he has read, and this is the goal of reading. (Burns & Kelebhan, 2010) indicated that the understanding deals with the deep structure of the language, which helps the reader to absorb the audio and written, in addition to reading the external face of the language; This is by interacting with the reciter material, and thus the student becomes able to ask questions, and holds him responsible for the mastery of reading, and benefit from the readable text, as the reader connects to understanding his interaction with the text, and thus the meaning is complete.

The process of teaching the subjects in general and teaching the English language in particular requires the use of more flexible and effective teaching strategies, in a way that contributes to promoting self -organized learning of the student, meeting his linguistic and cognitive needs, and activating his role in the educational process, and in supporting the role of the teacher as a facilitator and directed to my process Teaching and Learning (Wagner, & Urhahne, 2021), and this trend enhances the awareness of many educators the great impact of technology and technology use in education, given the increasing potential of computer and Internet applications, means of communication and information in various aspects of life (Al -Najmi, 2018).

With the technical and cognitive development, many teaching strategies that are based on benefiting from technology innovations, including Flipped Class, or the so -called Flipped learning, to need to use teaching methods and strategies An actor that helps to identify some of the problems of learning students who do not benefit from traditional learning properly, as there is a lot of information that comes to the student very quickly, but it is forgotten quickly, so the question was about the importance of employing a teaching strategy that helps students to be exposed To learn several times, by applying the strategy of the reflected class, especially with the prevalence of technology in the various education in the various educational levels. (Bristol, 2014)

The strategy of the reflected grade is based on the unlike the educational process, where students receive new information at home, by preparing the teacher short videos using assistance programs between (5-10) minutes, and sharing them in one of the (Web2 sites) Or social networks, or their participation in one of the videos, multimedia, or educational games from electronic information sources and other educational sites, instead of students receiving new information inside the class, then returning home to perform home duties in traditional education (Raja, 2013).

Educational literature includes multiple classifications of reading comprehension levels, and the researcher mentions the classification of (Al-Hawamdeh; Ashour, 2013; Al-Nashwan, 2016). They are: 1- The literal level: which is concerned with knowing the events and their sequence, reaching the facts through the text, identifying the characters, whether they are main or secondary, narrating the events in a logical manner, identifying the implicit and main meanings of words, and the emergence of the writer's style, by rephrasing the texts. 2- The deductive level: which includes differentiating between main and secondary ideas, making a summary of them, identifying the purpose of the texts, identifying the causes and results, adopting opinions, and issuing generalizations regarding the texts read. 3- The evaluative and critical level of the text, which includes knowing the relationships between words, knowing what is between the lines, distinguishing facts from others, linking events to each other, extracting secondary ideas from the main idea, and adopting a specific opinion regarding the text being read. 4- The creative level, which includes putting a convincing ending to the text, and benefiting from it in the practical aspect in all aspects of life, as well as using different words while maintaining the meaning and main ideas, creating new events that give a creative touch that attracts the reader, putting a new title that is consistent with the events included in the text, and highlighting the reader's personality in understanding the text, by suggesting some opinions about the text, getting to know the writer's style and language in writing, and working on putting a summary of the text being read.

After reviewing the above studies, the importance of research in using the flipped classroom strategy in the educational process and linking it to some variables becomes clear. Through the induction of these studies, it becomes clear that some of them addressed the effectiveness of using the flipped classroom strategy or flipped learning in developing some thinking or achievement skills among students, such as the study (Al-Harbi, 2017; Al-Subaie, 2016; Abu Jablah, 2016; and Borman, 2014)). Some of them were interested in studying its effect on developing reading comprehension, such as the study (Abu Salma, 2015; and Al-Harbi, 2015). The current study meets with some of these studies in terms of their interest in using the flipped classroom in the educational process, such as the study (Al-Nashwan, 2016; Abu Salma, 2015; and Al-Harbi, 2015). However, it was distinguished by its attempt to reveal the effectiveness of using the flipped classroom strategy in teaching English to develop reading comprehension among UCST students, which gives this study a kind of uniqueness compared to other research and studies. However, the researcher benefited from previous studies, literature, and standards in arriving at determining the study plan and methodology, building its tool, and statistical processing methods.

The strategy of the reflected class is one of the active teaching strategies, which is based on employing the teacher and students for education techniques in the educational process, which contributes to increasing the interaction between the teacher and students and the students themselves, and in developing different learning skills for students, and raising their self-learning level. The study (Abu Salma, 2015; Al-Harbi, 2015; Marlowe, 2012) emphasizes the importance of the class strategy reflected in teaching to develop various learning skills among students.

Thus, the problem of the study was determined by answering the following questions:

- What is the extent to which the reading comprehension of the English language is developed by the Flipped Classroom grade among UCST students?
- What is the effectiveness of using the Flipped Classroom in teaching English to develop reading comprehension on the survival of the learning effect of UCST students?

significance of study

This study contributes to enriching educational knowledge by highlighting the effectiveness of using the reflected class in developing readers' English understanding skills among UCST students. The study provides a theoretical framework that promotes a deep understanding of the relationship between innovative technology and student-centred learning methods, contributing to the development of modern educational methodologies that support improved learning outcomes. Furthermore, the study adds new insights into the use of interactive techniques in language teaching to academic literature, encouraging researchers to explore the impact of classes reflected in educational aspects. It also highlights the importance of enabling students to acquire language skills independently, thereby supporting modern educational trends towards interactive education.

Study objectives

The study aims to:

- Detect a statistically significant difference at the level ($\alpha = 0.05$) between the average scores of the students of the experimental group who studied the reading texts using the flipped classroom strategy and the students of the control group who studied using the usual method in the post-application of the reading comprehension skills test.
- Ensure the existence of a statistically significant difference at the level ($\alpha = 0.05$) between the average scores of the students of the experimental group who studied the specified reading texts using the flipped classroom strategy and the students of the control group who studied using the usual method in the post-application of the learning effect retention test.

Study terms

Flipped Class: "An educational model based on the use of modern technologies and the Internet in a way that allows a teacher to prepare the lesson through videos, audio files or other media, to be shared with students at home or elsewhere using their computers, smartphones or tablets before attending the lesson (Al -Omari & Muqabala, 2020).

A student-centred teaching strategy instead of a teacher, in which students watch English lessons in a short video at home before class time, while a teacher uses time in class to provide an active interactive environment in which students are guided and what they have learned.

Reading Comprehension: Al Najmi (2018) defined it as "enabling students to know the meaning of the word, the meaning of the sentence, the orderly association of meanings, the serial logic and the retention of these meanings and ideas, and their employment in dysfunctional life situations P. ". Mehidat & Samadi (2020) defined it as:" Students associate what they read (written symbols) with what they understand within the context (meaning) as they interact with consent texts.

In this study, the researcher defines him as: a linguistic skill characterized by the student in her literal, conclusive and critical understanding of the text read It is measured by the degree to which the student receives the readership test used in the study.

Study Limits

The study was limited to the following limits:

Objective limits: Developing the reading comprehension of the English language for UCST students through the flipped classroom.

Temporal limits: The first semester of the academic year 2024-2025.

Spatial limits: The University College of Science and Technology in Palestine.

Study hypotheses

- There is no statistically significant difference at the statistical significance level ($\alpha = 0.05$) between the average scores of the students of the experimental group who studied the reading texts in English using the flipped classroom strategy and the students of the control group who studied the same texts using the usual method in the post-application of the reading comprehension skills test.
- There is a statistically significant difference at the level ($\alpha = 0.05$) between the average scores of the students of the experimental group who studied the reading texts using the flipped classroom strategy and the group that studied using the usual method in the post-application of the learning effect retention test.

Literature review

This research and several studies were interested in verifying the effectiveness of some teaching methods to improve the extent of learning of students in various subjects. Al-Rubaie (2019) In the impact of the inverted classroom on the growth of English readership skills among elementary school students in Jeddah, the researcher adopted the semi-experimental curriculum which used a sample of 59 students, divided into two groups: officer experimental , prepared a list of readers understanding skills, tested the readers understanding skills; the results of the study revealed statistically significant differences between average scores of experimental and control groups under readers understanding skills to the advantage of group.

Al-Harbi study (2017) aimed at investigating the impact of flipped learning in teaching social and national studies on improving self-learning skills among a sample of gifted female first secondary students in Al-Ahsa Governorate. This study followed a descriptive analytical approach on a sample of 30 female students and used a questionnaire to assess the self-learning skills of female students. Results of the study indicated that flipped learning strategy was effective in teaching social and national studies, improving self-learning skills among gifted female students.

Abu Jablah (2016) conducted a research designed to prove the effectiveness of the flipped classroom among the first-year secondary school female students in Riyadh by using the (Edmod) website in its view on developing the creative thinking and achievement in biology among students. The study adopted the quasi-experimental approach, which relied on a sample of 52 female students distributed into two groups: control-a group and experimental group. Besides, it gives the following most prominent results: statistically significant differences between experimental and control groups in creative thinking skills, and the presence of statistically significant differences between both groups towards the subject in favor of the experimental group.

Although the study conducted by Al-Nashwan (2016) studied the effectiveness of the flipped classroom in developing the reading comprehension skills of fifth-grade primary students in Riyadh, a quasi-experimental approach was used in the study on a sample of (50) fifth-grade primary students. The results of the two groups of study-a pretest and posttest in reading comprehension-shows the effect of teaching English in the flipped classroom on developing reading comprehension skills of the primary school students.

The study by Al-Subaie (2016) endeavored to establish the efficacy of the flipped classroom strategy in the development of critical thinking and environmental awareness within the social studies curriculum with the first-year middle school students in Saudi Arabia. The quasi-experimental design was adopted, and the instruments used included a critical thinking scale assessing the following skills: predicting assumptions, interpreting, deduction, and evaluating discussions. The sample consisted of 40 students divided into an experimental group of 21 students and a control group of 19 students. An analysis indicated that a statistically significant difference existed in the scores of each selected group with regard to critical thinking between experimental and control groups after the application of the flipped classroom strategy. There was also a statistically significant difference between the two groups in environmental awareness, and the positive significant correlation was obtained for critical thinking and environmental awareness.

The study of Abu Salma (2015) aimed to show the effectiveness of the flipped classroom in developing reading skills in the English language by third grade middle school students in Riyadh. The research followed a quasi-experimental design with a sample of (59) students. After the program, the students were randomly grouped into control groups (25 students) and treatment groups (also 25 students). The researcher administered the pre- and post-English reading tests to both study groups. The study results revealed statistically significant differences between the scores of students of the experimental group and control group on the test following the application of the flipped classroom strategy, which favored the experimental group students.

The study of Al-Harbi (2015) was aimed at discovering the effectiveness of an educational program by enhancing the critical listening skills of sixth-grade elementary school girls in schools in Tabuk. A quasi-experimental approach was taken with a total sample of 44 randomly distributed six-grade female students grouped as a control and an experimental group; 22 in each group. The program was implemented to the experimental group, and the researcher applied the test for critical listening skills on the English language pre-test and post-test for both groups. Statistically significant differences were found between the scores of the experimental group and control group in the critical listening skills test where the scores were read after application of flipped classroom strategy, favoring the experimental group girls.

The study of Bormann (2014) examined the effectiveness of flipped learning on students' achievements and classroom interaction during the learning process. The study concluded that flipped learning provides an interactive learning environment, achieving optimum accomplishment and equipping students in their use of twenty-first century skills.

The study of Strayer (2014) concerned itself with comparing traditional learning and flipped learning. This descriptive analytic study used a sample of students from Ohio State University with data collected through observations and interviews. The main findings were that students were satisfied with the teaching and had learned with more understanding of the concepts involved.

Randall's study (2013) aimed to explain the use of a flipped learning strategy in teaching preparatory grade students at Lundberg University and how it impacted student achievement. The positive outcomes through the use of this technique with the flipped learning strategy increased students' motivation towards the educational process.

Study Methodology:

The study followed the Quiz -experimental method (Quiz- Experimental Research). This method requires the presence of groups (control and experimental), in which the effect of one or more independent variables on one or more dependent variables is addressed.

Study community and sample:

The study subjects were selected from UCST students using the intentional method, and consisted of (80) students who were randomly divided into an experimental group consisting of (40) students, and a control group consisting of (40) students.

Study Procedures

To achieve the study objectives, the researcher followed the requirements of the flipped classroom in teaching a number of reading texts in the English language, and prepared a number of video clips, each lasting between (5-10) minutes, according to the following steps:

1. Identify the targeted reading comprehension skills from the required reading texts and plan for them.
2. Provide the requirements of the flipped classroom, computer, internet, video production applications, and a medium for transferring the produced educational video to students.
3. Prepare video clips: The researcher prepared, in cooperation with some experienced teachers in this field, a group of video clips were prepared, each lasting between (5-10) minutes, and the quality of the video output was taken into account, and its consideration of the specified reading texts.
4. Produce a video for each reading text, edit it, and add the required sound and light effects.
5. Add educational activities and interactive questions to the recorded text.
6. Upload the text included in the videos to the teacher's link and share it via social media With the students of the experimental group.

7. The students of the experimental group were informed at home of the educational content of each video that the teacher had prepared in advance, with the attachment of the notes sheet for the video clip sent via the specified educational platform.

8. The teacher discussed with the students in the classroom the educational material included in each video they watched at home, and questions and inquiries were raised about it, and the educational activities planned in advance were carried out, and the results were recorded, to obtain a deeper understanding of the content, and to monitor and evaluate learning.

Study Tool

Reading Comprehension Skills Test

The researcher relied in preparing the list on the opinions of English language teachers, and reviewed and perused a number of previous studies and literature related to the subject of the study. The list consisted of four main skills, which are: (literal reading comprehension, inferential reading comprehension, critical reading comprehension, creative reading comprehension), and a number of sub-skills emerged from it. Table (1) shows this.

Table (1): Levels of reading comprehension skills.

READING COMPREHENSION LEVELS	SUB-SKILLS
LITERAL COMPREHENSION	5
DEDUCTIVE COMPREHENSION	5
CRITICAL COMPREHENSION	5
CREATIVE COMPREHENSION	5
TOTAL	20

- Objective of the test: To measure the level of acquisition of reading comprehension by UCST students.
- Test type: Multiple choice.
- Test question formulation: Questions are coded with serial numbers from (1-20), and alternatives (A, B, C, D)
- The formulation of the news questions took into account: the suitability of the linguistic formulation of the test vocabulary to the level of university students, the equality of the alternatives in difficulty, and the absence of overlap between them. The random distribution of correct answers. The questions were free of any hints for the correct answer. The questions covered the four levels of reading comprehension. The difficulty of the questions varied.
- Calculating the ease and difficulty coefficients for the test items: The ease and difficulty coefficients for the test questions were calculated using the equation for calculating the ease and difficulty coefficients. The ease coefficients for the test questions ranged between (0.42- 0.57), while the difficulty coefficients ranged between (0.28-0.54). Accordingly, these questions vary in the ease and difficulty ratios, as it was taken into consideration in their preparation that some of them would be for the student with low achievement, most of them for the student with average and above average achievement, and some of them for the student with high achievement. This is to take into account individual differences among students.

• Test Validity

Test validity means that the test measures what it was designed to measure. There are various ways to calculate the test validity coefficient. It refers to the external image or general form of the test in terms of the type of vocabulary, how it is formulated, the clarity of these vocabulary, the test instructions and their accuracy, and the objectivity they enjoy. The test was presented to a group of arbitrators, who agreed that each item in the test measures what it was designed to measure.

• Test reliability

Reliability is measured statistically by calculating the correlation coefficient between the scores obtained by students in the pre-test and the test results in the post-test. If the scores are fixed in the two tests, then the score The stability of the test is high, but if it is not stable, then the stability coefficient and the test is not stable, and the researcher used more than one method to calculate the stability coefficient of the test, to calculate the correlation coefficient of the test items with each other, the split-half method was used, and it reached (0.91), while the stability coefficient reached (0.92). After taking into account the notes and opinions of the arbitrators, the researcher prepared the test in light of the reading comprehension skills (literal, inferential, critical, and creative), and it consisted of (20) multiple-choice questions, and one point was calculated for each question, and the total score for the test is (20) points.

Correcting the test

The test was corrected by giving one mark for the correct answer, and zero for the incorrect answer, then the marks are added together to give the total mark for the student's answer to the test, and the test marks are from .(20-1)

Study design

The current study followed a quasi-experimental design (pre-post) for two groups (experimental group and control group), as follows:

O1 x O1 = EG

O1- O1= CG

Where:

(EG) = experimental group (studied using the flipped classroom strategy).

(CG) = Control group (studied using the usual method).

(O1) = Pre- and post-application of the reading comprehension test.

(X) Experimental treatment (teaching the experimental group students according to the flipped classroom strategy).

(-) (Implementing the usual method of teaching).

Study variables

Independent variable: teaching strategy, which has two levels: the flipped classroom and the traditional classroom.

Dependent variable: reading comprehension (literal, inferential, critical, creative).

Statistical methods:

To answer the study questions, the arithmetic means and standard deviations of the scores of the students of the experimental and control groups on the reading comprehension test were used, and the analysis of two-way variance (ANOVA) with a factorial design was used to control the differences between the arithmetic means of the students' scores in the pre-test application. Eta Square (2μ) was also extracted to identify the size of the effect of using the flipped classroom strategy in developing the reading comprehension skills of the students of the experimental group.

Conducting the study experiment

To answer the study hypotheses, the researcher carried out the following procedures:

- Pre-application of the reading comprehension test on the experimental and control study sample, which numbered (40) students for each group. After that, the grades were corrected, their averages and variances were calculated, and the significance of the difference between their averages was determined using the "T" test for two unrelated averages.
- Implementation of the study according to the use of the flipped classroom according to the program schedule, and its implementation continued for (21) days at a rate of three classes per week, with (21) class classes.
- Post-application of the test After completing the implementation of the specified reading texts, the post-application of the reading comprehension test was applied to the students of the experimental and control study groups separately, in Conditions similar to the pre-application. - The second post-application of the reading comprehension test after (21) days from the first post-application of the test for the second time on the two study groups, with the aim of determining the extent to which the learning effect persists among the students of the experimental and control study groups in reading comprehension.

Research Results and discussion

To answer the first question: How well does the flipped classroom develop UCST students' reading comprehension of English?

The researcher examined the first hypothesis, which stated that there is not a statistically significant difference at a significance level of ($\alpha = 0.05$) between the average scores of the students of the experimental group taking reading texts in English using the flipped classroom strategy and the scores of the students of the control group taking the same texts using the conventional method in the post-application reading comprehension test. The statistical analysis of the data included calculating the mean and mean square deviation of post-test scores for experimental and control groups on reading comprehension skills, followed by a t-test to compare the means of the two unrelated groups from normal populations with equal variances ($n_1 = n_2$) to test for directionality in difference and statistical significance; results are summarized in Table 2.

Table (2): The significance of the differences between the means of the control and experimental study groups in the post-test application.

Levels	Post-test application for the experimental group		Post-test application for the control group		F-value	T-value	Significance level
	Average	deviation	Average	deviation			
Literal Comprehension	4.20	0.76	2.70	0.95	2.88	3.88	*0.00
Inferential Comprehension	4.10	0.80	2.65	0.97		4.70	*0.00
Critical Comprehension	4.00	0.82	2.63	0.99		4.20	*0.00
Creative Comprehension	3.95	0.86	2.62	0.99		4.32	*0.00
Total	4.06	0.81	2.65	0.97		8.22	*0.00

The table indicates that there is a statistically significant apparent difference at the significance level ($\alpha = 0.05$) in favor of the students of the experimental group and in comparison with the students of the control group on the reading comprehension skills test, where the arithmetic means were 2.65 for the control group and 4.06 for the experimental group, and where the "t" calculated value was equal to 8.22, whereas the "F" critical value was found to be equal to 2.88 at the significance level of 0.05. In order to statistically frame the pre-differences as they operated on different treatments on reading comprehension skills test between the two groups, one-way ANOVA was used, and its results appear in Table (3).

Table (3): Results of the analysis of common variance (ANOVA) for the students' scores in the experimental and control groups on the post-test of (total) reading comprehension.

Source of Variance	Sum of Squares	Degrees of Freedom	Mean of Squares	F-Value	Level of Significance	η^2
Pre-measurement	3.23	1	3.20	36.44	0.000	
Group (Strategy)	5.02	1	4.20	48.56	*0.000	0.355
Error	6.43	37	0.06			
Total	15.0	39				

The results in Table (3) indicate that there is a statistically significant difference between the average scores of students in the control and experimental groups on the post-test of reading comprehension, as the calculated value of (F) for the difference reached (48.56), and this value is statistically significant at the significance level ($\alpha = 0.05$), meaning that there is a statistically significant difference in reading comprehension skills in general (overall) between students in the experimental group who studied using the flipped classroom strategy, and students in the control group who were subjected to the usual method of teaching. To identify the size of the effect of the flipped classroom strategy variable on the development of reading comprehension skills in general among students, Eta square (η^2) was calculated, and the value of Eta square (η^2) reached (0.355), and thus it can be said that (35.5%) of the variance in reading comprehension skills between students in the experimental and control groups is due to the flipped classroom strategy variable. The size of the strategy's effect on this result is high, according to Cohen's criteria for explaining the effect that the independent variable has on the dependent variable. This result confirms the effectiveness of using the flipped classroom strategy in developing reading comprehension skills among UCST students, as the results of the experimental group students outperformed the results of the control group students. Accordingly, the researcher believes that teaching English using the flipped classroom strategy helps increase the level of reading comprehension skills among UCST students, compared to the usual teaching method.

The researcher attributes this to the fact that using the flipped classroom strategy contributed to increasing the level of reading comprehension skills among the students in the experimental group, as the activities and applications they practiced inside the classroom complemented the videos that were available to them at home and that they could refer to whenever they wanted.

This result is consistent with the majority of previous studies that addressed the effectiveness of using the flipped classroom in developing reading comprehension skills or academic achievement among students in different subjects, as it is consistent with the study of (Al-Rubaie, 2019; Al-Harbi, 2017; Al-Nashwan, 2016; Abu Salma, 2015; Al-Harbi, 2015). The results of this study did not differ from the results of studies that addressed the

effectiveness of the flipped classroom strategy in developing reading comprehension skills and academic achievement among students.

To answer the second question: The effectiveness of using the class reflected in English teaching to develop readers' understanding of the impact of learning on UCST students?

The researcher tested the validity of the second imposition: $\alpha = 0.05$ statistically differentiated D between the two average grades of the pilot group students who studied the reading texts using the reverse row strategy and the group who studied using the usual method in the after-effect test. The researcher applied the reader's understanding skills test to the two study groups after 21 days of the first dimensional application of the test again to the two study groups, with a view to determining the extent to which the learning impact of the students of the experimental and control study groups in the understanding skills remains. The calculation of the averages and standard deviations of the grades of each group, the calculation of the value of the indication of differences between the average grades of the students of the experimental group and the control, and the use of the researcher Berge (SPSS), and the table (4) shows the skills of the experimental application of the variance " .

Table (4) : The value of "T" to indicate the differences between the average grades of the pilot and control study groups in the second dimensional application to test the skills of reading understanding the survival of the trace of interaction.

The second post-application of the experimental group		The second post-application of the control group		Table t value	Calculated t value
Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation		
26.5	6.87	12.82	8.12	2.88	7.84

Through table (4), the results of the "V" tests between the control and experimental combinations in the second dimensional test indicate that there are substantial and statistically significant differences between the results of the two groups, which were in favour of the pilot group's students, where the value was reached. "t" calculated (7.84) for an indicative level (0.05), emphasizing the role of the reflective class strategy in maintaining the impact of learning through the conduct and implementation of educational activities and applications by female students with the teacher in the classroom, which further stabilized the retention of information, knowledge and skills, as well as feedback provided by the educational video.

Table 5 illustrates the validity of the second imposition, which indicates that the difference between the averages of the pilot group scores in the first and second dimensional application is not D, meaning that the retention or the survival of the learning effect .

Table (5): Indication of the difference between the averages of the experimental group scores in the first dimensional application and the second dimensional application to test reading understanding skills (survival of the learning effect.

The first post-test application is the retention of the learning effect for the experimental group.		The second post-application: The persistence of the learning effect for the experimental group		Table t value	Calculated t value
Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation		
27.7	6.54	26.5	6.87	2.88	7.22

Table 5 results show that there are no statistically significant differences between the averages of the pilot group scores in the first dimension application and the second dimensional application that mean the retention or the survival of the learning effect. In order to measure the effectiveness of the reversed class strategy, the researcher used Blake's adjusted earnings equation (Black), which indicates that if the adjusted earnings ratio falls between zero and 1, the ineffectiveness of the program or strategy used in the ALT can be said to be ineffective. If the average earnings ratio is higher than the correct one and does not exceed 1. (2) This means that the programme or strategy used in teaching has achieved the minimum effectiveness, and if the adjusted earnings ratio is higher than (1.2) it means that the programme or strategy used in teaching has achieved the maximum.

Thus, it can be said: The reverse class strategy has a clear impact on the survival of the previous learning effect, and its transition to class, because this strategy focuses on the student's self-learning, making it the focus of learning, thereby increasing the level of reading understanding skills of the students of the experimental group in English.

This result is consistent with the majority of previous studies on the effectiveness of using the class reflected in the development of reader understanding skills or students' academic achievement in different subjects, where it is consistent with the study (Al-Rabbi, 2019 Al-Nishwan, 2016 ; Abu Salma, 2015; Warfare, 2015). The results of this study did not differ with the results of the studies that dealt with the effectiveness of the class strategy reflected in the development of reading understanding skills and academic achievement in Alt.

Results

1. The study found that the reflected grade strategy effectively contributes to the development of readership skills in UCST students
2. Results showed statistically significant differences in favour of the experimental group at all levels of reading understanding (artisanal, conclusive, critical, creative)
3. The study demonstrated the effectiveness of the reflected class strategy in promoting the retention of students' readership skills, confirming the survival of the impact of learning
4. The reflected class strategy enhanced interaction between students and educational content, contributing to enhancing self-learning and motivating students

Recommendations

1. Applying the class strategy reflected in the teaching of English language readership skills in universities and schools, given their proven effectiveness
2. Develop interactive educational content in line with the reflected class strategy, including videos and interactive educational activities.
3. Train teachers to efficiently use the reflected grade strategy through ongoing workshops and training programmes.
4. Further studies on modern educational strategies that contribute to improving readership understanding and application to different study subjects
5. Motivate students to use modern technology to achieve self-learning and enhance interaction with educational materials.

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