

The Impact of Flipped Classroom Instructional Strategy on 7th Grade Students Reading Comprehension in Jordan: An Empirical Study

Shaima Mokhmer Yahya¹, Sara Mohammad El-Freihat², Hussein Ali Mohammed Alwama³, Rima Asaad Abdul Jawad Abu Omar⁴

¹ Assistant Professor, Faculty of Education, Department of Educational Science, Al-Balqa' Applied University, Irbid, Jordan 00962796721745. E-mail: shimaa-mk-kr@bau.edu.jo

² Assistant Professor, Faculty of Education, Department of Educational Science, Al-Balqa' Applied University, Irbid, Jordan 00962797716825. E-mail: sara.freihat@bau.edu.jo

³ Assistant Professor, Department of Educational Science, Faculty of Education, Al Hussein Bin Talal University, Ma'an, Jordan 0796888299. E-mail: Lawama_2000@yahoo.com

⁴ Assistant Professor, Department of Educational Science, Faculty of Education, Al Hussein Bin Talal University, Ma'an, Jordan 0788833989. E-mail: dr.reema.abuomar@ahu.edu.jo

Correspondence: Dr. Shaima Mokhmer Yahya, Assistant Professor, Faculty of Education - Department of Educational Science - Al-Balqa' Applied University, Irbid, Jordan. E-mail: 00962796721745. E-mail: shimaa-mk-kr@bau.edu.jo

Received: May 2, 2024 Accepted: July 1, 2024 Online Published: July 30, 2024

doi:10.5430/wjel.v14n6p315

URL: <https://doi.org/10.5430/wjel.v14n6p315>

Abstract

The current study investigated the impact of flipped classroom instructional strategy on 7th grade student's reading comprehension in Jordan. A semi-experimental pre-posttest design was used through a sample consisting of (43) female students from the 7th grade selected purposefully. These were randomly assigned into two groups, the experimental group consisted of (23) female students and the control group consisted of (20) female students. The experimental groups were taught through the Flipped Classroom strategy, whereas the control group was taught according to the guidelines and procedures of teaching reading from the teacher's book. The study's results revealed a statistically significant difference between the means scores of students of the experimental and control groups and reading comprehension posttest in favor of the experimental group taught using a flipped classroom. This study may help language students capitalize on simple and interesting technology such as CDs, DVDs, Electronic platforms, and interactive applications for presenting educational materials.

Keywords: Flipped Classroom Instructional Strategy, 7th Grade Students, Reading Comprehension, Irbid Governorate, Jordan, Empirical Study

1. Introduction

Language is a key pillar for the development of nations; it connects community members and organizes linguistic relationships between members in a given society with their peers in other institutions. It is a highly control accurate system that members of society- despite their differences in social status – abide to use in communicating with others in the same community as they use language as a base for creating common ground and a way to express their feelings and emotions (Abu Alkhair, 2017).

In the same line of research, (Halas & Alsedawy, 2018) acknowledged that the importance of language cannot be ignored; it is the vessel containing nations' heritage and intellectual, cultural, philosophical, and religious history. It is well documented that nations seeking to achieve progress and prosperity for their people always take their language as a key factor for reaching what they aim for. Language is a tool for shedding light on nations' characteristics, a means for unity and resurrection as language is a reflection of what the nation has achieved.

One of the basic language skills, reading has been a main focus in language classrooms. In this respect, (Abu-Taweeleh & Jwaifell, 2019) asserts that reading is a means for advancing in different school subjects. Since reading is a mental reflective process and should be developed as one unit, and when knowing that reading requires the application of higher-order cognitive abilities like assessment, justification, problem-solving, making judgments, and synthesizing, mastering reading is a much-needed skill for students in the different grade levels so as they can be able to acquire knowledge, enhance their academic performance and increase their achievement level.

As it satisfies one's thirst for knowledge about the outside world, reading is a fundamental component of education, a means of communication and language acquisition, a gateway to success, a source of knowledge, and an enjoyable pastime. Moreover, reading is the process of comprehending and acquiring knowledge for advancement and self-improvement. It is also a vital component in assisting pupils in developing their vocabulary, general knowledge, and fluency (Alsaedi & Al-Rahmi, 2021).

According to (Taladngoen et al., 2020), reading is a process that involves the reader and the text. It also involves the reader intentionally trying to deduce meanings from the text they are reading. Furthermore, understanding is regarded as the primary goal of the reading process, and the reader strives to Reading comprehension is a very complicated skill; it requires connecting information presented in the reading text

with the background knowledge of the reader. Therefore, a reader cannot describe himself as active unless he contemplates the reading text, gets a deeper understanding, analyzes, and makes a clear connection between the different parts of the reading texts, connecting them with the ideas presented by the writer; and then, attempts to relate all these elements with his previous knowledge about the content of the reading text while comparing such knowledge with what he had learned before (Halas & Alsedawy, 2018).

The ability to deduce meaning from a text through two primary processes word recognition and language comprehension—is known as reading comprehension (Sánchez-Vincitore, 2022). It also describes the process of combining word reading, fluency, and understanding of both words and the outside world to create meaning. It is the process by which a writer imparts information or expertise to readers, allowing them to understand what the writer intended to express (Rianti, 2022).

According to (Al-Rimawi & Al Masri, 2022) reading comprehension skills were classified as literal comprehension lies in the ability to understand concepts stated in the text, remember details, identify lexical and idiomatic phrases, and follow instructions; inferential understanding which lies in deducing parallels and differences, cause-and-effect relationship, define latent meanings in the text, and the writer's intentions; and critical understanding which entails responding to the subject, making an effort to simulate it, offering ideas and alternate solutions that may produce better results and resolving similar issues based on the read-through material, as well as adding a comment, concluding a text, and developing an original opinion.

In this vein, (Al-Defear, 2018) adds that literal comprehension stands for understanding words, sentences, ideas, information, and the incidents directly as they are mentioned explicitly in the text, and includes three skills: Identifying the main concept from the text, identifying the information required from the text read, and defining the concept through the read text. Inferential understanding is the ability to define the implicit meanings that the writer intended and the text did not express, and the ability to link meanings and infer relationships between ideas. Inferential understanding includes four skills: Deducing the relationship between two concepts, the skill of obtaining conclusions through a set of introductions, the skill of identifying differences between two concepts, and the skill of deducing cause-and-effect relationships. As for critical understanding, it means producing a judgment on the reading material linguistically, semantically, and functionally, and assessing it in terms of its quality, accuracy, formulation, level of clarity, and its impact on the reader. Critical understanding includes three sub-skills: Conversion of two concepts through the text; and the skill of clarifying the benefits of the concept through the readable text.

To develop students' reading comprehension, (Al-Ansari, 2022) states that there is a need to acquire the ability to understand the text ideas while reading and ordering them, develop their sentence reading ability, so they don't deliberately read it sparsely as words, and improve the suspension process at the end of the sentence. Additionally, guiding students' sense of the meaning of the text and the emotional feelings that exist within the meanings of its words, developing students' ability to focus while reading and summarizing what they read, and motivating them to read in a variety of ways, especially the outstanding students.

Despite the enormous effort by curriculum developers and language teachers, students are still lacking the desired level of reading comprehension as studies indicate that students report low levels of reading comprehension. For instance, (Mohammed, 2019). Found that students are unable to comprehend the reading text presented to them. They lack the needed ability to decode reading letters, being emerged deeply in the reading text to make inferences and inductions' consisting of the basis of the high level of reading comprehension. The researcher recommended the need for developing effective instructional strategies to help students promote their reading comprehension to reach optimal levels so that they can show higher academic performances in the different school subjects.

The use of technology in language teaching has been documented in several studies. For example, (Arifani & Asari, 2020). Examined the effect of using a flipped classroom via WhatsApp in teaching middle school students EFL writing skills and found that this instructional strategy was very effective in making students acquire various writing skills. In the same line of research, (Kawinkoonlasate, 2019). studied integrating flipped classrooms in language teaching instruction and found that such an instructional strategy was very effective in making students more equipped to master the four language skills (Reading, writing, speaking, and listening). The use of flipped classrooms in the Arab World holds many opportunities for both teachers and students. For example, (Jdaitawi, 2019). Found that using a flipped classroom had various positive effects on students' outcomes; meaning that employing a flipped classroom can improve students' learning experiences in the different school levels.

Nowadays, and as a result of the various technological developments, there is a need for teachers to shift their instructional methods towards the adoption of technological tools and applications since such tools have become an integral part of daily life. Presently, EFL teachers are now acknowledging that their teaching behaviors should confirm these advancements and be more able to take advantage of what new technologies are providing for them (Arifani et al., 2020).

Since the introduction of new technologies, educators have been very interested in developing constructional strategies that can be based on using such advancements to provide students with interesting learning experiences that can fulfill their interests. Nowadays, technology is something that no one can ignore knowing that students are born in an era of technology that has been a major influence in daily life (Stratton et al., 2020). The concept of the flipped classroom can be traced to the introduction of blended learning which is the integration of technology in a traditional classroom (Hunley, 2016). "Flipped learning reverses this paradigm, with information introduced to students before class using technology. The core of flipped learning is to provide a learning community where students develop knowledge through constructive learning experiences, peer interaction, and collaboration" (Chatta & Haque, 2020).

This strategy is a computer-based outdoor learning process and interactive group-based classroom learning. As opposed to traditional

learning, which requires the provision of teaching materials in the classroom, flipped classroom is the practice of providing learning resources to be delivered at home, and it has four techniques: Before flipping his class, the teacher may spend about 30 minutes teaching students and having them take notes, the remaining time would be devoted to discussing the content. Now that students are learning and taking notes at home through videos, the entire class session could be devoted to discussion and active study (Ardiansyah et al., 2022).

For (Qader & Arslan, 2019), a flipped classroom can provide students with a very interesting and open learning experience where both students and teachers can work together to solve problems presented in the learning content. For these reasons, the flipped classroom is highly appealing for teachers wishing to make use of all the class time to open new ventures for students to learn in an active learning environment as discussion and brainstorming are highly appreciated. Furthermore, a flipped classroom can demand students to apply, synthesize, analyze, and create their own learning pace as they use higher-order thinking skills (Chatta & Haque, 2020).

Along the same line, (Al Harbi & Alshumaimeri, 2016) maintained that the flipped classroom is one instructional strategy gaining momentum in the last few years as it is students centered since students are required to review the learning material before coming to the classroom while the teachers' main task is to answer questions and inquires posed by students.

The flipped classroom is an innovative pedagogical strategy that consists of three steps: (1) pre-class, where students are introduced to a new subject through properly designed and easily accessible educational content (podcasts, videos, presentations, quizzes, etc.) posted on a digital platform; (2) in-class, where students apply what they have learned from the previous stage, form their observations or questions, explain the new concepts, and complete the assignments with assistance from the teacher; (3) post-class, where students have more time to work on various activities, most often in groups his students to evaluate the procedure as a whole and the degree to which the learning objectives were met. If students choose to verify their comprehension, they can go back to the digital learning resources, which they are currently examining from a different angle (Rizoset al., 2023). Studies have documented the advantages presented by the use of flipped classrooms. For example, (Ghanem (2015) maintains that using the classroom motivates students to ask any questions that come to their mind when reviewing the learning material before starting the lesson; it is a student-centered instructional strategy as students take a role in developing the learning material; allowing students to be active learners since the learning process is more flexible and adaptable to the needs of students during the lesson flow. Finally, teachers have a chance to interact with students without any restrictions while students are at the same time encouraged to engage in discussions, share ideas, and work to promote their problem-solving skills.

Numerous investigations have been carried out to investigate the impact of flipped classrooms on students' academic performance and disposition in diverse academic disciplines. For instance, (Ahmed, 2016) investigated the impact of flipped classrooms on the listening comprehension of Egyptian EFL students using a one-group pre-posttest approach. A flipped classroom model was used to teach listening comprehension to a sample of thirty-four EFL students. This study confirmed the efficacy of flipped classrooms in improving students' listening comprehension by finding statistically significant variations in the mean scores of the students on the pre- and post-tests, with the post-test having higher scores.

(Ibrahim & Ahmed, 2016) looked studied how well Jordanian students' professors at the faculty of educational sciences used flipped classrooms to foster science processes and problem-solving abilities. A sample of sixty male and female students was chosen at random, and the students were divided into two study groups, each with thirty teachers. The first was controlled and taught the same topic using a regular teaching approach, whereas the second was experimental and taught an educational unit utilizing a flipped classroom. Science procedures and problem-solving skills assessments were given to both study groups prior to and following participation in order to assess the efficacy of the flipped classroom teaching approach (pre-posttest design). The study's findings demonstrated statistically significant variations in the mean ratings of students' professors.

In a related vein of study, Alsawat (2016) examined how implementing the flipped classroom model enhanced students' capacity for higher order thinking and listening in a single EFL classroom. Two study groups were randomly assigned to a sample of 67 female EFL students. In the first group, which comprised 34 female students representing the experimental group, instruction was provided utilizing a flipped classroom model. In contrast, the second group, which included 33 female EFL students, received instruction according to the traditional method. The study's findings revealed statistically significant differences between the two groups' means for the listening and higher-order thinking skills, with the experimental group performing better. A Saudi Arabian study (Alrowsa'a, 2018) looked at how well flipped classrooms helped female university students develop positive study habits and achieve better academic results in science. The study's sample comprised 54 female students from the curriculum and instructional method department. Two equal study groups were formed out of these students: In the first, an experimental group of 27 students was taught the material through a flipped classroom, and in the second, a control group of 27 students was taught the material using a conventional teaching approach. A habits of mind scale and achievement test were given both before and after the study to determine the impact of the teaching approach. The post-test means of the study groups differed statistically significantly, favoring the experimental group, according to the study's findings.

In a different study, Ambusaidi & Al-Hosani (2018) examined how flipped classrooms affected ninth-grade Omani students' academic achievement and motivation for science learning. 53 ninth-grade students made up a random sample that was divided into two study groups at random. A circuits unit from the ninth-grade science textbook was used to teach the experimental group of 27 students, while traditional teaching methods were used to teach the control group the same material. An achievement test and a science learning motivation assessment were used both before and after the flipped classroom instructional strategy was put into practice to confirm its efficacy.

Her research (Khasawneh, 2018) sought to determine how well Taif's fifth-grade female elementary school students developed their

grammatical concepts when utilizing a flipped classroom approach. The study's sample comprised fifty-two female fifth-grade elementary students, split into two groups. Twenty-six female students taught grammatical concepts in a conventional group using a flipped classroom strategy; twenty-six female students taught in an experimental group using the traditional method. A list of acceptable grammatical concepts and a test to measure grammatical concepts were the study's instruments. The study found statistically significant differences, favoring the experimental group, in the development of grammatical concept skills among female students in the fifth elementary grade.

In the Palestinian

(Dweikat & Raba, 2019) used a sample of (79) EFL teachers who participated in a teacher education improvement project to examine how EFL teachers perceived the flipped classroom model in the Palestinian context. Focus group meetings, interviews, and a questionnaire were used to accomplish the study's goal. It was discovered that EFL teachers had positive opinions of the flipped classroom concept when it came to Palestine. According to the study, gender, education, and experience do not statistically significantly alter how EFL teachers in the Palestinian context perceive the flipped classroom model (Nazza, 2019) looked at how flipped classrooms affected students learning Arabic as a second language in terms of fewer spelling errors. Twenty Indonesian students who were taking Arabic as a second language at one cultural center in Amman were included in the study's sample. They were chosen through deliberate sampling. They learned how to write Hamza' through a flipped classroom approach. A YouTube lesson that was downloaded from the internet was given to them. Furthermore, the pupils were required to finish a few spelling tasks that included finishing words that fit Hamza. The study's findings showed statistically significant differences between students' scores on the writing achievement test administered by Hamza, favoring the posttest, indicating that the flipped classroom instructional strategy is helping students make fewer spelling errors.

The goal of their study (Ardiansyah, 2022) was to find out how the flipped classroom affected the reading comprehension of students in their second semester. The participants ($n = 50$) were divided into two equal groups by the researchers: While the control group taught using traditional methods, the experimental group used the flipped classroom model. There was a reading comprehension pre- and post-test as well as a post-task questionnaire survey. The experimental group outperformed the control group in reading comprehension, as evidenced by the significant differences in post-test scores between the two groups.

(Phuntho, 2022) investigated the impact of a flipped classroom model along with reading comprehension techniques on students' understanding of English text using a quasi-experimental experimental design. Twenty-six fourth-graders from a central Bhutanese primary school were chosen to take part in the study. Pre- and post-tests were administered to measure reading comprehension, and during a one-on-one discussion about the read text with a teacher, a number of observations were made. The findings indicated a statistically significant difference between the pre- and post-test mean scores, pointing to an improvement in the comprehension of reading among the students. In order to determine how an extended flipped classroom model for fully online learning affects students' reading comprehension and how it interacts with working memory capacity, (Diningrat, 2023) chose to have (112) first-year students in a reading course at the University of Brawijaya in Indonesia take part in a nine-week program. A reading comprehension questionnaire was used to gauge students' comprehension, and a reading span test was used to gauge students' WMC. When comparing the extended flipped classroom model to the original flipped classroom, the analysis showed that students' reading comprehension skills improved significantly. In reading comprehension, students with a high WMC also performed significantly better than those with a low WMC.

2. Problem Statement

Educational literature recommended examining the application of flipped classrooms in various academic disciplines. As contended (Sahin, 2020). The flipped classroom is based on the assumption that students should be prepared before coming to the classroom about the learning content. With the increasing technological developments and the need to transform the educational realm into distance learning, one of the best ways to take advantage of the many benefits offered has been to implement flipped classrooms. Acknowledging the value of technology in the classroom, the Jordanian Ministry of Education established a special department dedicated to promoting the use of technology as an effective educational means for improving the quality of learning experiences provided to students (Ministry of Education, 2020).

Reviewing students' academic achievements in Arabic language skills, and taking into consideration the importance of reading comprehension in language classrooms, it is then necessary to develop instructional strategies able to promote students' performance. The researcher observed as a university lecturer that students lack the necessary levels of reading comprehension, making her infer that this problem goes back to the basic and middle school grades. Reviewing previous studies, it was proven that blinding technology has a major, positive impact on students' learning in the classroom. Furthermore, there were few prior studies conducted in the Arab world that looked at the impact of flipped classrooms on teaching Arabic skills, particularly reading. This study aims to close the theoretical gap in this field of inquiry. The study addresses the following main question: What impact does the flipped classroom approach have on the posttest results overall and for each of the reading comprehension domains?

2.1 Significance

The study's attempt to provide accurate and trustworthy information regarding the application of flipped classrooms in reading comprehension instruction accounts for its significance. This may shed light on how to effectively use this instructional strategy by teachers to remedy any flaws in students' achievement in different language skills such as writing and spelling. Furthermore, it is hoped that Arabic curriculum developers will use the information obtained in this study to design activities based on the use of flipped classrooms to encourage students to be more engaged in language classes. Finally, it is hopeful that students may recognize the benefits of using flipped classrooms in helping them master the learning material and develop higher-order thinking skills such as critical thinking, creative thinking,

and problem-solving.

2.2 Limitations

(1)The study was limited to seventh-grade femail students in the First Irbid Education Directorate, and thus, the results obtained cannot be generalized to other grade levels or other students in different geographical regions. They can be generalized to students in similar contexts. A study that targets other levels may have different results.

(2) The study was limited to the second semester of the 2021–2022 academic year. A longer time frame might yield different outcomes.

(3) The validity and reliability criteria for assessing the reading comprehension test were confined to the acceptable validity and reliability levels obtained for both instruments.

2.3 Operational Definitions of Terms

2.3.1 Reading Comprehension

a skill that requires connecting information presented in the reading text with previous knowledge of the reader (Halas & Alsedawy, 2018). In this study, reading comprehension is one language reading skill assisting students to be engaged in the reading text to reach the hidden messages presented by the writer.

2.3.2 Flipped Classroom

It is a teaching instructional strategy entailing that students prepare their learning materials before their class by using online instructional videos and text readings whenever it is convenient for them (Jdaitawi, 2019). In the context of the current study, is an instructional strategy used to develop Jordanian seventh-grade students' reading comprehension.

3. Methods and Procedures

3.1 Participants of the Study

The participants of the study were randomly selected from one primary public school in Irbid Governorate. These were (25) seventh-grade female students taught through the Flipped Classroom strategy.

3.2 Design and Variables of the Study

The present study adopted the one experimental group design. The study has two variables; the independent variable is the Flipped Classroom while the dependent variable is the participants' performance on the reading comprehensive test.

3.3 The Instruments

To achieve the aims of the study, the researcher used a pre-post reading comprehension test.

3.4 Validity and Reliability of the Reading Comprehensive Test

3.4.1 Content Validity of the Reading Comprehensive Test

To ensure the content validity of the pre-posttest and students' and teachers' guides, juries of 10 members were asked to give their remarks about the content of the study instruments (teacher guide and reading comprehension test). The percentage of the jury's agreement was 85%. The content of the reading comprehension test was suitable with interns of language and the types of questions posed in it.

3.5 Construct Validity of the Reading Comprehension Test

To obtain the construct validity of the reading comprehension test, the researcher piloted the same reading comprehension test on a group of 20 students from another section of the seventh grade in the same school. They were not included in the participants of the study. Pearson correlations of the reading comprehension test criteria with the total test scores were calculated and the results are presented in Table 1.

Table 1. Correlation Coefficients of the Writing Test

	Correlation with test
Overall	0.88

Table 1 shows that Cronbach Alpha for the total score of the reading comprehension test was 0.88 which means that the quality of the test was acceptable to be included in the pre-/post-test.

3.5.1 Reliability of the Reading Comprehension Test

To ensure the reliability of the test, the researcher gave it to the same pilot study two weeks after administering the pre-test according to the test-retest procedure. Pearson correlation coefficients between the two test administrations were calculated; the results are presented in Table 2.

Table 2. Reliability of the stability index of the writing test

Cronbach's Alpha	Stability Index	Criteria Count
0.88	0.81	7

Table 2 shows that the Cronbach's Alpha of the reading comprehension test-retest was 0.88, and the stability index of the same test was 0.81 which means that the test is reusable.

4. Results

To answer the study question "What is the effect of flipped classroom strategy on the total score and individual domains of reading comprehension posttest?", Wilcoxon Signed Ranks to find the effect of flipped classroom strategy on the total score and individual domains of reading comprehension was used, as seen in the following table.

Table 3. Wilcoxon Signed Ranks between Pre and Post-Tests

		N	Mean Rank	Sum of Ranks	Z	Asymp. Sig. (2-tailed)
Pre-Post	Negative Ranks	0	0.00	0.00	-4.376	0.000
	Positive Ranks	25	13.00	325.00		
	Ties	0				
	Total	25				

Table 3 shows statistically significant differences at ($= 0.05$) on the total score and individual domains of reading comprehension between pre and post-tests in favor of post-tests.

Table 4. Wilcoxon Signed Ranks between pre and post-tests

		N	Mean Rank	Sum of Ranks	Z	Asymp. Sig. (2-tailed)
Pre-Post Test for Literal Level	Negative Ranks	0	0.00	0.00	-4.377	0.000
	Positive Ranks	25	13.00	325.00		
	Ties	0				
	Total	25				

It can be noted from Table 4 that there are statistically significant differences at ($= 0.05$) on the literal domain of reading comprehension between pre and post-tests in favor of post-tests.

Table 5. Wilcoxon Signed Ranks between pre and post-tests

		N	Mean Rank	Sum of Ranks	Z	Asymp. Sig. (2-tailed)
Pre-Post Test for Conductive Level	Negative Ranks	0	0.00	0.00	-4.378	0.000
	Positive Ranks	25	13.00	325.00		
	Ties	0				
	Total	25				

Table 5 shows that there are statistically significant differences at ($= 0.05$) on the conductive domain of reading comprehension between pre and post-tests in favor of post-tests.

Table 6. Wilcoxon Signed Ranks between pre and post-tests

		N	Mean Rank	Sum of Ranks	Z	Asymp. Sig. (2-tailed)
Pre-Post Test for Critical Level	Negative Ranks	0	0.00	0.00	-4.375	0.000
	Positive Ranks	25	13.00	325.00		
	Ties	0				
	Total	25				

Table 6 shows that there are statistically significant differences at ($= 0.05$) on the critical domain of reading comprehension between pre and post-tests in favor of post-tests.

5. Discussion

The overall reading comprehension and individual domains of this reading skill among female seventh-grade students were found to be improved by the flipped classroom instructional strategy, as evidenced by the statistically significant differences in the means of the experimental group's pre- and post-test results that favored the post-test. This outcome demonstrates that implementing a flipped classroom teaching method can meet learners' needs and interests since relying on the use of modern technology learning and teaching materials can develop the principles of self-learning and effective time use. Knowing that students are given the learning material before coming to the class promotes their sense of responsibility for their learning making one assume that students are given a full opportunity to study this learning material at their own pace. This means that the teacher's role is a facilitator for mastering the learning material; students come to the class having questions they find themselves unable to answer, engage in discussion with the teacher and their classmates, thus, they can reach the hidden meaning in the reading text, and this is the essence of reading comprehension in general. Affirming this fact, (Talan and Gulsecen, 2019) maintained that providing students in the language classroom with invaluable opportunities to express their ideas, pose questions on some parts of the reading paragraph they do not understand, and share their concerns about the reading material has many advantages for students engagement in the learning environment. When they are prepared for the learning material before coming to the class, they show higher levels of self-confidence and self-esteem as they are informed about the learning material before coming to the class and feel that they can be active participants in the discussions taking place in class. The main objective of reading comprehension is to make students more involved with the reading text. This perception is supported by the results reported in (Al-Zain's, 2015) study indicating that using technology is an effective tool for developing different language skills among students.

The documented advantages shown by experimental group students can be attributed to several facts. Firstly, the flipped classroom is based on constructive learning which is to build on previous knowledge to make use of the new learning material while working on connecting

background knowledge with new information acquired in the learning setting (Presti, 2016). Second, a flipped classroom is an instructional strategy that emphasizes the needs and interests of the students, suggesting that the students are the center of the learning process. Teachers in flipped classrooms design learning activities that help students feel comfortable sharing ideas and participating in class discussions, and they base their lesson plans on the strengths of their students (Koh, 2019). In a flipped classroom, the teacher's final role is that of a facilitator, which entails overseeing the flow of the curriculum in accordance with the academic proficiency of the students (Seery, 2015).

According to (Ahmed , 2016), using a flipped classroom is highly effective because it is an instructional strategy that caters to students' interests and makes learning more motivating for both students and teachers. Students receive the learning materials ahead of time, and class time is then used for debate, questioning, and answering these materials, which promotes student participation and engagement.

In the same context, (Alrowsa, 2018) proposed teaching students a variety of subjects through flipped classrooms., claiming that using technology to enhance comprehension of the subject matter deepens the understanding of both students and teachers.. In a flipped classroom, students are well informed about the content of learning material while teachers make use of class time to provide an optimal learning environment where students can participate in their understanding with peers, and ask about what they do not understand while expecting to have a fruitful answer by the teacher or peers, an environment promoting deeper understanding of the learning material, and this is the essence of learning.

What made this instructional strategy effective as seen in the posttest results is that it addresses one language skill needing to establish an attractive and interesting learning environment for students. Presenting reading texts to students and asking them to read them at home and then coming to the class with many doubts and questions; encouraging them to discuss their ideas will eventually lead to a better understanding of the learning material. Also, reading comprehension is all about enriching vocabulary and language structure, and the use of the classroom focuses on such skills and this makes it effective in improving students' acquisition of these two important language skills.

Differentiating between the characteristics of learners at present and in the past, (Khasawneh, 2018) postulated that technology has prevailed in the lives of individuals since it became a lifestyle. This means that capitalizing on its uses may be an invaluable instrument for teachers to attract students' attention in the classroom by immersing them in a learning environment dominated by the use of technology, an environment they feel able to meet their needs, conforms to their interests and how they wish to receive the learning material.

(Sletten, 2017) indicates that the success of any given instructional strategy is highly dependent on teachers' attitudes toward its use. While flipped classrooms have been proven to be an effective instructional strategy, their success is in the hands of teachers. (Alsowat, 2016) added that students feel more comfortable in the classroom when teachers show a positive attitude toward the use of flipped classrooms in teaching. The researcher concluded by recommending both teachers and students rely on the use of this effective strategy in language classrooms.

These findings support those of earlier research, including (Ahmed, 2016), which showed that flipped classrooms were successful in improving students' listening comprehension. Moreover, this study's findings align with those of studies conducted by Ambusaidi and (Al-Hosani, 2018) and (Nazzal, 2019), all of which discovered that flipped classrooms are successful in a variety of academic subjects. It also aligns with the findings of (Phuntsho's, 2022) study, which looked at how flipped classrooms and reading comprehension techniques affected students' ability to comprehend English texts. The study's findings revealed a statistically significant difference in the mean scores of the pre- and post-tests, indicating that students' reading comprehension had improved. Subsequently, it became clear that implementing a flipped classroom was a successful teaching method for raising students' basic reading comprehension levels, suggesting that it could be used in a variety of grade levels. a review of earlier research indicates that the educational literature investigating the impact of flipped classrooms on reading comprehension in Arabic classrooms is scarce, owing to the research's limited knowledge. The researcher therefore urges Arabic teachers to implement this teaching method when imparting Arabic language skills, since it proved successful in enhancing seventh-grade students' reading comprehension. Additionally, more attention should be paid to incorporating technology into lesson plans by Arabic textbook authors. Since technology is now an essential part of students' daily lives, textbook authors should take advantage of all the benefits that come with using it. Lastly, further studies should look at how well flipped classrooms affect students in various grade levels' proficiency in other Arabic language skills like writing, speaking, and listening.

6. Conclusion

The study investigated the impact of flipped classroom instructional strategy on 7th-grade students' reading comprehension in Jordan. The flipped classroom teaching strategy was effective in improving reading comprehension as a whole and the individual areas of this reading skill among seventh-grade female students. There are also statistically significant differences between the average scores of the experimental group before the post-test. The results are in favor of the post-test. This result shows that using the flipped classroom teaching strategy can meet the needs and interests of learners as relying on the use of modern technological learning and teaching materials can develop the principles of self-learning and effective use of time. Students come to class with questions that they find themselves unable to answer, They dialogue with the teacher and their classmates, and thus they can reach the hidden meaning in the text read, and this is the essence of reading comprehension in general. Future research should aim to include a larger and more diverse sample, including female students from different regions and educational settings to enhance the generalizability of the findings. The study provides valuable insights into the potential benefits of the flipped classroom instructional strategy on reading comprehension among 7th-grade female students in Jordan.

Acknowledgments

Not applicable.

Authors' contributions

Dr. Shaima Mokhmer Yahya and Dr Sara Mohammad El-Freihat were responsible for the study design, as responsible for data collection. Dr. Hussein Ali Mohammed Alwama drafted the manuscript and Dr. Rima Asaad Abdul Jawad Abu Omar reviewed it,

Funding

Not applicable.

Competing interests

The author declares no competing interest.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Sciedu Press.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

Open access

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

References

- Abu Alkhair, A. (2017). Reciprocal teaching, reading comprehension and attitudes towards the reading of dependent and independent secondary school students: An experimental study. *Journal of Arab Studies in Education and Psychology*, 81, 235-304 <https://doi.org/10.12816/0037009>
- Abu-Taweeleh, S. & Jwaifell, M. (2019). The impact of using curricula dramatization on Arabic language understanding among the seventh graders in Ma'an. *Arabiyat: Journal Pendidikan Bahasa Arab dan Kebahasaaraban*, 6(1), 158-204. <https://doi.org/10.15408/a.v6i1.9139>.
- Ahmed, S. (2016). The flipped classroom model to develop Egyptian EFL students' listening comprehension. *English Language Teaching*, 9(9), 166-178. <https://doi.org/10.5539/elt.v9n9p166>
- Al Harbi, S., & Alshumaimeri, Y. (2016). The flipped classroom impact on grammar Saudi Secondary School students' performances and attitudes. *English Language Teaching*, 9(10), 60-80. <https://doi.org/10.5539/ELT.V9N10P60>
- Al-Ansari, S. (2022). The degree of availability of reading comprehension skills in my language book for the third grade of primary school. *The Arab Journal for educational and Human Sciences studies and research*, 6(30), 303-346. <https://doi.org/10.21608/jasep.2022.265545>
- Al-Rimawi, S., & Al Masri, A. (2022). The level of reading comprehension skills of students with learning disabilities in Jordan. *Journal of Educational and Social Research*, 21(1), 234-245. <https://doi.org/10.36941/jesr-2022-0019>
- Alrowsa'a, T. (2018). The effectiveness of Flipped Classroom in teaching science teaching strategies and the course of its assessment on the academic achievement and mind habits development of the student of Princess Norah Bint Abdulrahman University. *IUG Journal of Educational and Psychology Sciences*, 26(1), 128-150. <https://doi.org/10.12816/0048779>
- Alsaedi, Z., Ngadiran, N., Kadir, Z., Altowayti, W., & Al-Rahmi, W. (2021). Reading habits and attitudes among University Students: A review. *Journal of Techno-Social*, 13(1), 44-53. <https://doi.org/10.30880/jts.2021.13.01.006>
- Alsawat, H. (2016). An EFL flipped classroom teaching model: Effects on English language higher-order thinking skills, student

- engagement and satisfaction. *Journal Education and practice*, 7(9), 108-121.
- Alzafairy, M. (2018). Level of reading comprehension and awareness of its skills among the students of the General Security Academy. *Educational Science*, 3, 154-185. <https://doi.org/10.21608/ssj.2018.244831>
- Al-Zain, H. (2015). The impact of the use of inverted learning strategy on the academic achievement of female students of the College of Education, Princess Noura Bint Abdul Rahman University. *International Specialized Educational Journal*, 4(1), 171-186. <https://files.eric.ed.gov/fulltext/EJ1343226.pdf>
- Ambusaidi, A., & Al-Hosani, H. (2018). The impact of flipped classroom approach in acquiring motivation towards science learning and academic achievements on ninth-grade female students. *An-Najah University Journal for Research – Humanities*, 32(8), 1569-1604. <https://doi.org/10.35552/0247-032-008-006>
- Ardiansyah, W., Meirani, W., & Risnawati, R. (2022). Boosting students' reading comprehension attainment with flipped classroom model: A pilot study at state polytechnic of Sriwijaya. *International Online Journal of Education and Teaching (IOJET)*, 9(2), 871-883. Retrieved from <https://eric.ed.gov/?id=EJ1343226>
- Arifani, Y., Asari, S., Anwar, K., & Budianto, L. (2020). Individual or collaborative Whatsapp learning? A flipped classroom model of EFL writing instruction. *Teaching English with Technology*, 20(1), 122-139. Retrieved from <http://www.tewtjournal.org/>
- Chatta, B., & Haque, M. (2020). Improving paragraph writing skills of Saudi EFL University students using flipped classroom instruction. *Arab World English Journal*, 228-247. <https://doi.org/10.24093/awej/call6.15>
- Diningrat, S., Setyosari, P., Ulfa, S. & Widiati, U. (2023). The effect of an extended flipped classroom model for fully online learning and its interaction with working memory capacity on students' reading comprehension. *Journal of New Approaches in Educational Research*, 12(1), 77-99. <https://doi.org/10.7821/naer.2023.1.1073>
- Dweikat, K., & Raba, A. (2019). English as foreign language (EFL) teachers' perceptions of the Flipped Classroom model in Palestine. *IUG Journal of Educational and Psychology Sciences*, 27(3), 29-47.
- Halas, D., & Alsedawy, K. (2018). The impact of using the strategy of Tanal Alqamar on developing the female' fourth graders' reading comprehension skills. *IUG Journal of Educational and Psychology Sciences*, 26(4), 377-403. <https://doi.org/10.12816/0049719>
- Hunley, R. (2016). *Teacher and student perceptions on high school science flipped classrooms: Educational breakthrough or media hype?* Unpublished PhD Dissertation, East Tennessee State University, USA. Retrieved from <https://core.ac.uk/download/pdf/214071456.pdf>
- Ibrahim, B., & Ahmed, A. (2016). The effect of teaching science using flipped classroom strategy on developing science processing and problem solving among the faculty of educational science students in Jordan. *Journal of the Association of Arab Research in Higher Education*, 37(1), 55-82. Retrieved from <http://www.tewtjournal.org>
- Jdaitawi, M. (2019). The effect of flipped classroom strategy on students' learning outcomes. *International Journal of Instruction*, 12(3), 665-668. <https://doi.org/10.29333/iji.2019.12340a>
- Kawinkoonlasate, P. (2019). Integration in flipped classroom technology approach to develop English language skills of Thai EFL learners. *English Language Teaching*, 12(11), 23-34. <https://doi.org/10.5539/elt.v12n11p23>
- Khasawneh, N. (2018). The effect of flipped classroom strategy in developing grammatical concepts among fifth elementary grade female students in Taif. *Human Sciences Review O.E.B*, 9, 577-597.
- Koh, J. (2019). Four pedagogical dimensions for understanding flipped classroom practices in higher education: A systematic review. *Educational Sciences: Theory and Practice*, 19(4), 14-33. <https://doi.org/10.12738/estp.2019.4.002>
- Ministry of Education. (2020). *Education Technology Directorate*. Retrieved October 9, 2020, from <http://www.moe.gov.jo/ar/node/9278>
- Mohammed, I. (2019). The effect of the magnet summary strategy on the university student's achievement in reading comprehension. *Journal of Tikrit University for Humanities*, 23(3), 1-21. <https://doi.org/10.25130/jtuh.26.3.2019.24>
- Nazzal, N. (2019). Implementing the flipped classroom strategy in improving the spelling skills of non-native Arabic speakers: The Hamzeh Allographs as an example. *Dirasat: Human and Social Sciences*, 46(3), 31-43.
- Phuntsho, U. (2022). The flipped classroom model: Effects on students' reading comprehension in English text. *I-Manager's Journal on School Educational Technology*, 17(3), 34-43. <https://doi.org/10.26634/jsch.17.3.18575>
- Presti, C. (2016). The flipped learning approach in nursing education: A literature review. *Journal of Nursing Education*, 55(5), 252-257. <https://doi.org/10.3928/01484834-20160414-03>
- Qader, R., & Arslan, F. (2019). The effect of flipped classroom instruction in writing: A case study with Iraqi EFL learners. *Teaching English with Technology*, 19(1), 36-55. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1204642.pdf>
- Rianti, M. (2022). *Teaching and learning reading comprehension by using anticipation reaction guide strategy in the eighth of the second semester of SMPN 15 KRUI in the academic year of 2021/2022*. Unpublished Master Thesis, the State Islamic University Raden Intan Lampung, Indonesia. Retrieved from <http://repository.radenintan.ac.id/19632/1/PUSAT%20BAB%201%20DAN%202.pdf>

- Rizos, I., Kolokotronis, G., & Papanikolaou, A. (2023). Investigating the effectiveness of the flipped classroom model in a mathematics education course in Greece. *Journal of Mathematics and Science Teacher*, 3(1), 1-12. <https://doi.org/10.29333/mathsciteacher/12608>
- Sahin, A. (2020). Using the flipped classroom model in the history course: A learning experience. *International Journal of Educational Methodology*, 6(1), 113-121. <https://doi.org/10.12973/ijem.6.1.113>
- Sánchez-Vincitore, L., Veras, C., Mencía-Ripley, A., Ruiz-Matuk, C., & Cubilla-Bonnetier, D. (2022). Reading comprehension precursors: Evidence of the simple view of reading in a transparent orthography. *Frontiers in Education*, 7(914414), 1-12. <https://doi.org/10.3389/educ.2022.914414>
- Seery, M. (2015). Flipped learning in higher education chemistry: Emerging trends and potential directions. *Chemistry Education Research and Practice*, 16, 758-768. <https://doi.org/10.1039/c5rp00136f>
- Sletten, S. (2017). Investigating flipped learning: Student self-regulated learning, perceptions, and achievement in an introductory biology course. *Journal of Science Education and Technology*, 26(3), 347-358. <https://doi.org/10.1007/s10956-016-9683-8>
- Stratton, E., Chitiyo, G., Mathende, A., & Davis, K. (2020). Evaluating flipped versus face-to-face classrooms in middle school on science achievement and student perceptions. *Contemporary Educational Technology*, 11(1), 131-142. <https://doi.org/10.30935/cet.646888>
- Taladngoen, U., Palawatwichai, N., Estaban, R., & Phuphawan, N. (2020). A study of factors affecting EFL tertiary students' reading comprehension ability. *Rangsit Journal of Educational Studies*, 7(1), 12-21. <https://doi.org/10.14456/rjes.2020.9>
- Talan, T., & Gulsecen, S. (2019). The effect of a flipped classroom on students' achievement, academic engagement, and satisfaction levels. *Turkish Online Journal of Distance Education*, 20(4), 31-60. <https://doi.org/10.17718/tojde.640503>