

# The Effectiveness of the Constructivist Learning Model in Enhancing the Motivation of Fourth Grade Students towards Reading among Arab Students in Israel

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## Abstract

The study aimed at identifying the effectiveness of the constructivist-learning model in enhancing the motivation of fourth grade students towards reading among Arab students in Israel. The study adopted a quasi-experimental approach based on the design of the experimental and control groups. The researcher used the questionnaire to measure the motivation towards reading as a tool for the study, where the study population consisted of (1300) male and female students, which is consisted of all fourth -grade students at Hussein Yassin Primary School in the Galilee region, and their number (39) male and female students were chosen randomly. The study's findings showed that there were statistically significant differences in the study sample's performance because of the constructivist-learning model's effectiveness in enhancing motivation, and it was in favor of the constructivist-learning model (experimental group). The study recommended the necessity to encourage and train the instructors to create and develop constructivist-learning environments for teaching various educational materials in accordance with students' interests in this field. It also suggested conducting studies and research on the challenges teachers face in implementing modern teaching strategies, constructivist learning theory ideas, and students' attitudes and acceptance of the constructivist approach to learning in order to improve educational and scientific outcomes. It also suggested that studies and research be conducted on the challenges that instructors experience in implementing modern teaching strategies, constructivist learning theory ideas, and students' attitudes and acceptance of the constructivist approach to learning.

**Keywords:** Constructive Learning, Motivation; Fourth Grade; Reading; Students; Arabs; Israel.

## I. INTRODUCTION

The diversity and development of teaching methods and strategies had the greatest impact on keeping pace with current challenges and developments, and contributing to development in its various forms. One of these areas, the most important of which is the education, was reflected in the methods and means of teaching to help students meet their needs and future aspirations, as the diversity and development of teaching methods and strategies had the greatest impact on keeping pace with current

challenges and developments, and contributing to development in its various forms effectively.

When teachers are highly versed and apply strategies that will increase students' enjoyment of learning, the teaching process becomes more effective, and the strategies must provide students the opportunity to explain or clarify their thoughts. Effective teaching strategies in the classroom, as well as student participation in their learning, are required for educational development, as the emphasis is on building knowledge rather than transforming it. Reading is the gateway and means by which students

can learn about any information they desire, whether scientific or literary, and it is the fundamental basis for gaining organized and in-depth knowledge about a subject. It is also a mental activity that emerges from the interaction of the human personality in all of its aspects.

(Kaur, 2016).

Reading, according to Shehata and Samman (2012), is an integration of two processes: a physiological response to written symbols, which represents the mechanical side of reading, and the mental side, which is represented in constructing meaning through thinking, analysis, linking, deduction, interaction, criticism, taste, and problem solving. While Abdel Bari (2010) stated that reading is essentially a psychological process, it is related to the reader's general ability, his preparations for reading, his desire towards the reading material, his goal of reading a certain material without others, and his desire to read more so in some topics than others.

The constructivist theory and its intellectual premises for effective learning organizations, which highlight the importance of using the constructivist learning model strategy, which Maximus (2003) described as a cognitive model that emphasizes providing appropriate opportunities for students to build their concepts and knowledge according to four stages extracted from the stages of the learning cycle (explore concept, extract concept, apply concept).

Constructivism is based on the interpretation of thinking according to Piaget's views. The student, according to this theory, is active and positive, using what he has of ideas to understand the new experiences he has been exposed to, in the educational situations provided by the teacher to him, and the teacher's job is to facilitate education for students and not to indoctrinate them with knowledge. The student processes information effectively, and it contradicts theories that consider learning to be an accumulation of knowledge, as it coordinates experiences with

each other, and organizes them to be helpful (Garcia, 2011).

Constructivism is defined by Ayyash and Al-Obaisi (2013, 534) as a theory based on the assumption that learning does not occur through the automatic transfer of knowledge from the teacher to the learner, but rather through the learner constructing a meaning for what he learns on his own, based on his prior experiences and knowledge. It is "a theory according to which students grow their knowledge, abilities, and attitudes by their exposure to new experiences and interactions with them, as well as the use of their senses and past experiences in building new information," according to Tafrova (2012, 187)

There is a significant distinction between a constructivist-dominated teaching and learning environment and a program of providing direct knowledge to students without activities in which they can participate as active learners. In a constructivist learning environment, however, discussions and activities appropriate to students' interests and needs are organized, information is structured and reliable, and cooperation is encouraged to develop creative thinking in students (Ayaz, 2015).

Because reading is a growing skill that improves with practice, Al-Astal (2010) believes that motivation to read is one of the important factors that motivates students to practice reading and continue their search for knowledge, and that having a positive attitude toward reading is one of the important factors that contributes to increasing the motivation of reading students.

Motivation refers to an individual's potential energy that works to provoke him, to engage in a specific behavior, by selecting a functionally beneficial response to him in the process of his adaptation to his external environment and prioritizing this response over other potential responses, resulting in the satisfaction of a specific need or the achievement of a specific goal. It is one of the most important personal motivators in starting the process of developing talent, directing it, and maintaining its continuity when faced with difficulties,

boredom, or failure (Collangelo and Davies, 2011).

There is no doubt that students vary in their achievement and level of learning, despite the similar circumstances surrounding them, as they learn with the same teachers, and read the same books, and in the same schools, but some of them learn more than others, and this may be due to their varying levels of motivation. One of the most prominent forms of this motivation is their motivation towards reading, which is represented in the individual's continuous desire to read and enjoyment of what he reads, and among the distinguishing features of this individual is challenge, perseverance, curiosity, competition, cooperation, and self-efficacy (Wigfield & Guthrie, 1997).

Guthrie, Wigfield, and VonSecker (2000, 333) define motivation to read as "the process that reveals that the student is active during the reading process, applies various strategies for understanding, and demonstrates attitudes toward reading." According to Keller and Song (2001, 6), it is "the fuel for the tools people use to learn and acquire information," while Cambria and Guthrie (2010, 17) define it as "the individual's values, beliefs, and behaviors surrounding the reading process, some of which may lead to excitement and others to difficult work."

Constructivist theory is used to support a variety of educational models. Gabriela (2015) mentioned several of these models, including the Posner Model, Suzan Lawks Model, Problem Centered Learning Model (Grayson-Wheatly Model), Learning Cycle Model (Atkin-Karplus Model), Structural Analysis Model (Appleton Model), Generative Model (Osborn-Wittrock Model), John Zahoric Model, Woods Model, Realistic Model, and Bybee Model), which the researcher used in the current study.

## 2. Problem and question of the study

Given the importance of the constructivist learning model as a teaching strategy that focuses on making the learner the center of the

educational process by activating his role in exploration and research, as well as stimulating his latent energies, which develops a positive attitude toward learning, the researcher decided to conduct this study while waiting for positive results from the application of the constructivist learning model.

There were multiple reasons for students' weakness in their love of reading when the researcher was briefed on several studies related to the level of improving motivation towards reading, in addition to her work in the educational field. The response of this weakness to the teaching methods used in teaching reading is one of the most important and influential factors, according to the researcher, and based on the researcher's knowledge, the constructivist learning model was not presented in the official curricula in order to increase their motivation. As a result, the researcher devised the idea for this study, which aimed to examine the efficacy of the constructivist learning model in enhancing fourth -grade students' reading motivation. This is done by answering to the following question:

- Are there statistically significant differences at the level of significance ( $\alpha = 0.05$ ) between the pre and post arithmetic averages for the performance of a sample of fourth grade students on the reading motivation scale due to the teaching strategy variable (conventional method, constructivist learning model)?

## 3. Importance of the study

The significance of the current study is shown in two different ways:

First, theoretical importance: It is hoped that this study will contribute to the enrichment of knowledge by providing an appropriate theoretical framework, as well as the improvement and development of teaching methods, all of which will have a positive impact on the educational process as a whole. This is a new scientific addition to the educational literature on the study's subject, and it adds to the Arabic library's database of studies on the topic.

Second, practical importance: It is hoped that the findings of this study will support curricula and educational materials developers in developing reading education, specifically aspects related to reading comprehension and motivation to read, using the constructivist learning model, and assisting Arabic language teachers in enticing students to love reading. School students' motivation to read improves as a result of the constructivist learning model, which has a good impact on the development of the educational process in the field and enhances students' motivation to read.

#### 4. Purpose of the study

1. The purpose of this study was to determine the efficiency of using the constructivist learning model in enhancing students' motivation to read among fourth -grade students at Hussein Yassin Primary School in the Galilee region, in order to improve teaching methods and strategies.

2. Emphasizing the importance of the distinctions between the conventional method and the constructivist learning model in improving students' motivation to read, in order to identify and resolve the differences.

#### 5. Limitations of the study

The study was limited to the following:

. Objective limits: The effectiveness of the constructivist learning model in increasing the motivation of fourth grade students towards reading among Arab students in Israel.

. Human limits: fourth grade students.

. Spatial boundaries: Hussein Yassin Primary School in the Galilee region.

. Time limits: the second semester of the academic world 2021-2020.

#### 6. Operational definition

The constructivist learning model: is defined by the researcher as a constructivist model used to enhance fourth -grade students' reading comprehension and motivation to read at Hussein Yassin Primary School in the Galilee region. It focuses student-teacher interaction, in which students use their information and knowledge to build new knowledge. It is carried out in four stages: advocacy, exploration, solution and explanation, and action.

. Reading motivation: The researcher defines reading motivation as the desire of a fourth -grade student at Hussein Yassin School in the Galilee region to read, learn, and acquire general knowledge outside of the school curricula. It is determined by the total number of replies from the study sample members on the reading motivation scale developed for this purpose.

#### 7. Literature review

Sari's (2016) focused on determining the efficiency of an educational program based on the Bybee constructivist model in terms of student achievement and motivation in mathematics. The study used a quasi-experimental approach, with a sample of (80) fourth-grade students in Syria's Quneitra Governorate divided evenly into two groups (experimental and control). The results showed that there were statistically significant differences in performance between the two groups, with the experimental group outperforming the control group.

Bani Issa (2016) conducted research to see how efficient two constructivist teaching models are at motivating students to learn science. The study sample consisted of (212) male and female eighth-grade students from United Arab Emirates schools, who were divided into three groups: the first experimental group, which consisted of (71) male and female students, was taught educational material using the Bybee (5E's) model; the second experimental group, which consisted of (212) male and female

students, was taught educational material using the Bybee (5E's) model; and the fourth experimental group, which consisted of (212) male and female students. The second experimental group, which included (70) male and female students, was taught using the John Zahorek model, whereas the fourth group (the control group) was taught using the conventional method and included (71) male and female students. The study used a tool in the form of a scale of motivation for learning science. The findings revealed that there were statistically significant differences in average responses of study sample members on the total scale due to the effect of the teaching model, in favor of the two experimental groups when compared to the control group, and in favor of the group that studied with the Bybe model when compared to the group that studied with the John Zahorek model and the control group.

The purpose of the Dindar study (2016) was to look into the link between a constructivist learning environment and students' motivation to learn science. The study used a descriptive approach, with the scale of motivation for learning science served as a tool. It was conducted on (243) students from Turkish public primary schools before and after they were taught the science curriculum using the constructivist learning methodology, which involved connecting scientific concepts to real-life situations. The findings revealed that students' motivation to learn science rose in the post-application phase compared to the pre-application phase.

Hassan's study (2017) aims to investigate the impact of using the constructivist "Baby" model on eighth-grade students' self-motivation to learn in the Islamic education subject. The self-motivation to learn scale and a quasi-experimental approach were implemented to improve the study's purpose. The study included (77) female eighth-grade students from Umm Tufail Secondary School in Amman, Jordan. They were divided into two groups, with one experimental group of 39 female students and the other control group of 38 female students. The study's findings revealed that using the constructivist "Baby"

model in acquiring self-motivation to learn had a statistically significant effect.

Tohamey, (2020) aims to identify the impact of using a proposed program based on constructivist theory to develop students' skills in text analysis and creative writing, as well as their motivation to pursue them. The one-group design was used in the study (pre and post design), The study sample included (90) male and female English language students from Minya University in Egypt, who participated in a constructivist activity-based curriculum. A test of text analysis skills, a test of creative writing skills, a step-by-step scale to measure students' creative writing ability, and a motivation scale were among the study materials. The results revealed statistically significant differences in favor of the dimensional measurement, indicating that the program was successful in developing text analysis and creative writing skills, as well as motivation to do so.

The Al-Rahamna study (2019) aims to identify the impact of adopting the Bybe strategy to teach history on students' motivation to learn history. The study sample consisted of 65 eighth-grade students from Salah El-Din Basic School for Boys, which is related with the Ain Al-Basha District Education Directorate in Jordan. The students were divided into two groups (control and experimental). A learning motivation questionnaire was used to achieve the study's goal. The results showed that using the Bye method had a statistically significant effect on the level of motivation to learn history in favor of the experimental group.

Yan and Hongying (2020) found that using the constructivist learning model represented by e-books and interactive online instruction improved reading comprehension abilities and motivation to read English as a second language (ESL). The study used a quasi-experimental approach, with 72 participants divided evenly between two groups in an English language school in Bengbu, China (experimental and control). The results demonstrated the effectiveness of using e-books and interactive teaching via the Internet, with experimental students gaining more

knowledge and information than the control group, and the constructivist learning model helping them in improving reading skills, increasing their motivation to learn, and creating a positive educational environment.

### 8. What distinguishes this study besides the previous studies?

By reviewing previous studies, the researcher discovered that she dealt with the constructivist model using a variety of approaches, including quasi-experimental, experimental, and descriptive, as well as its impact on a variety of teaching fields, including scientific and literary ones. While it differs from it in that it combines the constructivist learning model and motivation to read in one study, it is also the only one that is used in the Galilee region, according to the researcher's knowledge. In creating and using the study techniques, as well as developing and presenting the theoretical framework and discussing the results, the current study has benefited from those and other studies.

### 9. Methodology and procedures

#### - Methodology of the study

The researcher used the quasi-experimental approach based on the design of the experimental and control groups to fulfill the study's aims, which was the most appropriate for this study.

#### - Population of the study

The study population included the entire Galilee region's fourth -grade students, a total of (1300) male and female students.

#### - Sample of the study

The study's sample included all fourth -grade students at Hussein Yassin Primary School in the Galilee region, a total of 39 male and female students who were chosen at random because it is the school where the researcher works, and the students were divided into 2 groups (control group = 20) and (experimental group = 19).

#### - Instrument of the study

The Arabized Reading Motivation Questionnaire (RMQ) developed by Wigifield and Guthrie (1997), which was Arabized and modified by Mal Allah, was adapted to the Arab environment and attempts to measure the level of reading motivation among Arabs. It is intended for students aged (10-12) years old and comprises of (47) paragraphs divided into (11) fields.

#### - Validity of the study

To test the validity of the motivating questionnaire for reading, it was given to an exploratory sample of (50) participants from other schools, and it were re-applied a month later. R2), and calculate the corrected correlation coefficient between the score of the items and the total score of its field (corrected item-total correlation) (R3), as shown in Table (1).

Table 1 : *Pearson's correlation coefficients between the items degree and the total degree of its field (R1), the total degree of the questionnaire (R2), and the corrected correlation coefficient between the item's degree and the total degree of its field (R3) to define reading .motivation*

Field	No.	R1	R2	R3	Field	No.	R1	R2	R3
Importance of reading	1	0.90**	0.88**	0.80	Reading outcome	24	0.85**	0.83**	0.77
	2	0.83**	0.80**	0.77		25	0.86**	0.83**	0.79
Reading efficiency	3	0.76**	0.88**	0.79		26	0.82**	0.71**	0.78
	4	0.80**	0.85**	0.77		27	0.77**	0.82**	0.71
	5	0.79**	0.84**	0.76		Reading	28	0.85**	0.76**

	6	0.79**	0.83**	0.75	<b>curiosity</b>	29	0.83**	0.83**	0.78
<b>School grades</b>	7	0.81**	0.71**	0.78		30	0.82**	0.80**	0.84
	8	0.77**	0.69**	0.71		31	0.81**	0.82**	0.81
	9	0.80**	0.84**	0.79		32	0.84**	0.78**	0.82
	10	0.83**	0.84**	0.74	<b>Integration into reading</b>	33	0.85**	0.84**	0.80
<b>Avoid reading</b>	11	0.87**	0.83**	0.75		34	0.81**	0.89**	0.78
	12	0.90**	0.83**	0.77		35	0.89**	0.78**	0.77
	13	0.87**	0.71**	0.77		36	0.85**	0.88**	0.72
	14	0.77**	0.82**	0.66	37	0.83**	0.79**	0.70	
<b>The challenge</b>	15	0.85**	0.76**	0.73	<b>The competition</b>	38	0.80**	0.83**	0.75
	16	0.83**	0.83**	0.65		39	0.86**	0.83**	0.77
	17	0.88**	0.80**	0.76		40	0.86**	0.71**	0.70
	18	0.86**	0.82**	0.75		41	0.71**	0.82**	0.68
	19	0.81**	0.78**	0.82	<b>Social aspects</b>	42	0.85**	0.76**	0.80
<b>Commit to read</b>	20	0.79**	0.84**	0.69		43	0.89**	0.84**	0.78
	21	0.81**	0.90**	0.78		44	0.87**	0.83**	0.80
	22	0.90**	0.78**	0.79		45	0.91**	0.83**	0.81
	23	0.72**	0.88**	0.77		46	0.86**	0.71**	0.70
					47	0.75**	0.82**	0.69	

\*\*Statistically significant at (P<0.01)

As shown in table (1) the correlation coefficients (R1) between the item degree and the total degree for its field ranged from (0.83) to (0.90) for the reading importance field . It was between (0.76) and (0.80) for the field of reading proficiency, (0.77) and (0.83) for the field of school grades, (0.77) and (0.90) for the field of reading avoidance, (0.81) and (0.88) for the field of challenge, and (0.72) and (0.90) for the reading commitment field , (0.77) and (0.86) for the reading outcome field , (0.81) and (0.85) for the reading curiosity field , (0.81) and (0.89) for the reading integration field , (0.71) and (0.86) for the competition field , and (0.75) and (0.91) for the social aspects field . The Pearson correlation coefficients between item degree and questionnaire total degree (R2) ranged from (0.69) to (0.90), all of which are statistically significant (P.01) and more than the minimum degree (0.35) mentioned in the study

(Bryman & Cramer, 1997). Furthermore, the previous values indicate validity in reading motivation (Brown, 1983).

The corrected correlation coefficients between the item degree and the total degree for its field ranged from (0.77) to (0.80) for the field of reading importance, from (0.75) to (0.79) for the field of reading proficiency, from (0.71) to (0.79) for the field of school grades, from (0.66) to (0.77) for the reading avoidance field , from (0.65) to (0.82) for the challenge field , and from (0.69) to (0.79) for the reading commitment field . And between (0.71) and (0.79) for the field of reading outcomes, (0.78) and (0.84) for the field of reading curiosity, (0.72) and (0.80) for the field of reading integration, (0.68) and (0.77) for the field of competition, and (0.69) and (0.81) for the field of social aspects, all of which are statistically significant (P.01), and higher than the minimum degree (0.30) indicated in (Leech,

Barrett, & Morgan, 2011), this shows that the questionnaire has a high level of validity (Brown, 1983; Leach et al., 2011).

- Reliability of the study

Cronbach's alpha coefficients and stability coefficients (test and retest) were calculated for the field s and total to verify the consistency of the exploratory sample students' performance on the reading motivation questionnaire (internal consistency), as shown in Table (2).

Table 2: Results of Cronbach's alpha reliability and retesting of reading motivation

Field	No.	Internal consistency	Re-test
Importance of reading	2	0.79	0.77
Reading efficiency	4	0.88	0.84
School grades	4	0.82	0.84
Avoid reading	4	0.80	0.81
The challenge	5	0.86	0.84
Commit to read	4	0.86	0.87
Reading outcome	4	0.83	0.89
Reading curiosity	5	0.90	0.88
Integration into reading	5	0.81	0.78
The competition	4	0.87	0.83
Social aspects	6	0.91	0.86
Total	47	0.88	0.85

Table (2) shows that the internal consistency values ranged from (0.79) to (0.91) for the reading motivation field s separately, and (0.88) for the entire questionnaire, and the re-test coefficients ranged from (0.77) to (0.89) for the reading motivation field s separately, and (0.85) for the total questionnaire, all of which are higher than the minimum (0.70) referred to in (Cronbach, 1951), indicating that the questionnaire has a high degree of consistency.

- Variables of the study

The study included the following variables:

. Independent variable

The teaching strategy has two levels: (the constructivist learning model, and the conventional method).

. Dependent variable

- Enhancing fourth-grade students' motivation to read.

. Statistical Analysis

Pearson's correlation coefficient, Cronbach's alpha internal consistency coefficient, and the difficulty and discrimination coefficient were all used by the researcher. The averages, standard deviations, and adjusted averages for the control and experimental study groups' reading comprehension skills were calculated to answer the study question. The accompanying one-way analysis of variance (ANCOVA) was designed to examine the significance of the differences between the post averages according to the teaching method variable. Means, standard deviations, and adjusted averages were calculated for the two study groups' reading comprehension performance and an accompanying one-way multiple analysis of variance (MANCOVA) was used to examine the significance of the differences between the average according to the variable of the teaching strategy. Finally, the Eta Square indicator was used to find out the effect size of the teaching strategy.

## 10. Results of the study

Results related to the answer to the study question: " Are there statistically significant differences at the level of significance ( $\alpha = 0.05$ ) between the pre and post arithmetic averages for the performance of a sample of fourth grade students on the reading motivation scale due to the teaching strategy variable (conventional method, constructivist learning model)"?

To answer this question; the averages and standard deviations of the pre- and post-tests were calculated for the two study groups (experimental and control) according to the



variable of teaching strategy (constructive reading motivation, as shown in Table (3). learning and conventional method ) toward

Table 3: *The averages and standard deviations of the pre and post tests for the two groups (experimental and control) in the field of reading motivation*

Field	No.	Group	Pre- test		Post-test	
			Average	standard deviation	Average	standard error
Importance of reading	2	Control	3.65	.67	4.15	.59
		Experimental	4.00	.94	5.42	.69
Reading efficiency	4	Control	5.75	.79	7.40	.60
		Experimental	5.58	1.02	10.21	1.23
School grades	4	Control	6.40	.68	7.10	.45
		Experimental	6.58	1.26	9.53	.96
Avoid reading	4	Control	8.00	.86	8.05	0.39
		Experimental	8.66	.82	10.05	1.08
The challenge	4	Control	6.20	.77	9.25	.91
		Experimental	6.89	1.24	11.89	1.56
Commit to read	5	Control	6.10	1.55	8.10	.79
		Experimental	7.00	1.25	9.74	.81
Reading outcome	4	Control	8.30	1.17	7.25	.55
		Experimental	7.74	1.05	10.05	.78
Reading curiosity	4	Control	7.85	.813	8.85	.75
		Experimental	7.11	1.73	12.26	1.69
Integration into reading	5	Control	7.00	1.38	8.60	.68
		Experimental	6.63	1.30	12.79	1.27
The competition	6	Control	11.75	1.25	9.20	1.01
		Experimental	11.58	1.46	10.47	.51
Social aspects	4	Control	3.65	.67	12.90	1.92
		Experimental	4.00	.94	14.84	1.34

\* The maximum degree for each field = the number of items of the field \* 3, and the minimum degree for each field = the number of items for the field \* 1.

averages of the post-tests of the two study groups (experimental and control) in the field of reading motivation (the importance of reading, reading efficiency, school grades, reading avoidance, challenge, commitment to reading, reading output, reading curiosity, and

Table (3) shows that, depending on the variable of teaching strategy, there are differences in the

integration in reading, competition, and social aspects). In the field s of motivation to read eleven, the average estimations of the experimental group were higher than the average estimates of the control group.

To control the effect of the pre-differences in the pre-test of the two study groups in the field of motivation towards reading, and testing the statistical significance of the differences in the post-test of the two study groups in the field of motivation towards reading together, (Linear Combination); one way MANCOVA was used

in, using the Hotelling's Trace test. The test value (0.19) was statistically significant (P0.01), indicating that the teaching strategy has a statistically significant effect in the field s of reading motivation and accounts for 98 % in students' estimates of the field s of reading motivation combined.

The (ANCOVAs) were used to examine the statistical significance of the differences between the average estimations of the two study groups in each field of reading motivation as shown in table (4)

Table 4: *the results of (ANCOVAs) to test the significance of differences in the estimations of the experimental and control groups in the areas of individual reading, according to the variable of teaching strategy after adjusting for the effect of the pre-test*

Source	Field	Sum of squares	Degrees of freedom	Mean squares	F	Sig	Eta square
Teaching strategy	Importance of reading	2.13	1	2.13	5.96	0.02	0.19
	Reading efficiency	33.21	1	33.21	61.30	0.00	0.70
	School grades	14.11	1	14.11	38.50	0.00	0.60
	Avoid reading	24.94	1	24.94	51.136	0.00	0.66
	The challenge	25.16	1	25.16	20.23	0.00	0.44
	Commit to read	2.39	1	2.39	4.93	0.04	0.16
	Reading outcome	22.59	1	22.59	59.30	0.00	0.70
	Reading curiosity	31.62	1	31.62	32.51	0.00	0.56
	Integration into reading	62.31	1	62.31	58.42	0.00	0.69
	The competition	3.87	1	3.87	7.30	0.01	0.22
	Social aspects	18.70	1	18.70	8.66	0.01	0.25
The error	Importance of reading	9.30	26	0.36			
	Reading efficiency	14.09	26	0.54			
	School grades	9.53	26	0.37			
	Avoid reading	12.68	26	0.49			
	The challenge	32.34	26	1.24			
	Commit to read	12.61	26	0.49			
	Reading outcome	9.91	26	0.38			
	Reading curiosity	25.29	26	0.97			

	Integration into reading	27.73	26	1.07			
	The competition	13.78	26	0.53			
	Social aspects	56.16	26	2.16			
Total	Importance of reading	918.00	39				
	Reading efficiency	3110.00	39				
	School grades	2753.00	39				
	Avoid reading	3240.00	39				
	The challenge	4459.00	39				
	Commit to read	3137.00	39				
	Reading outcome	2988.00	39				
	Reading curiosity	4486.00	39				
	Integration into reading	4625.00	39				
	The competition	3801.00	39				
	Social aspects	7616.00	39				

Table (4) shows the following:

- There is a statistically significant difference ( $\alpha > 0.1$ ) between the average estimates of the experimental and control group in the field of reading importance, and it explains 19% (eta square) of the variance in the students' estimates, in favor of the experimental group.
- There is a statistically significant difference ( $\alpha > 0.1$ ) between the average estimates of the experimental and control group in the field of reading proficiency, and it explains 70% of the discrepancy in the students' estimates, in favor of the experimental group.
- There is a statistically significant difference ( $\alpha > 0.1$ ) between the average estimates of the experimental and control group in the field of school grades, and it explains 60% of the discrepancy in the students' grades, in favor of the experimental group.
- There is a statistically significant difference ( $\alpha > 0.1$ ) between the average estimates of the experimental and control group in the field of avoidance of reading, and it explains 66% of

the variance in the students' estimates, in favor of the experimental group.

- There is a statistically significant difference ( $\alpha > 0.1$ ) between the average estimates of the experimental and control group in the field of challenge, and it explains 44% of the variance in the students' estimates, in favor of the experimental group.
- There is a statistically significant difference ( $\alpha > 0.5$ ) between the average estimates of the experimental and control group in the field of reading commitment, and it explains 16% of the variance in the students' estimates, in favor of the experimental group.
- There is a statistically significant difference ( $\alpha > 0.1$ ) between the average estimates of the experimental and control group in the field of reading outcome, and it explains 70% of the variance in the students' estimates, in favor of the experimental group.
- There is a statistically significant difference ( $\alpha > 0.1$ ) between the average estimates of the experimental and control group in the field of reading curiosity, and it explains 56% of the

variance in the students' estimates, in favor of the experimental group.

- There is a statistically significant difference ( $\alpha > 01$ ) between the average estimates of the experimental and control groups in the field of integration in reading, and it explains 69% of the discrepancy in the students' estimates, in favor of the experimental group.

- There is a statistically significant difference ( $\alpha > 01$ ) between the average estimates of the experimental and control groups in the field of competition, and it explains 22% of the variance in the students' estimates, in favor of the experimental group.

- There is a statistically significant difference ( $\alpha > 01$ ) between the average estimates of the experimental and control group in the field of social aspects, and it explains 25% of the discrepancy in the students' estimates, in favor of the experimental group.

The adjusted averages of the performance of the two study groups in the fields of motivation were calculated to compare the averages of the experimental and control group tests after adjusting for the effect of the pre-differences in the fields of motivation as shown in table (5).

Table 5 : *the averages of the experimental and control group motivation tests before and after pre-differences adjustment*

Field	Group	Pre-adjustment		Post-adjustment	
		Average	standard deviation	Average	standard error
<b>Importance of reading</b>	Control	4.15	0.59	4.39	.180
	Experimental	5.42	0.69	5.17	.190
<b>Reading efficiency</b>	Control	7.40	0.60	7.27	.230
	Experimental	10.21	1.23	10.35	.230
<b>School grades</b>	Control	7.10	0.45	7.31	.190
	Experimental	9.53	0.96	9.31	.190
<b>Avoid reading</b>	Control	8.05	0.39	7.73	.210
	Experimental	10.05	1.08	10.39	.220
<b>The challenge</b>	Control	9.25	0.91	9.24	.340
	Experimental	11.89	1.56	11.91	.350
<b>Commit to read</b>	Control	8.10	0.79	8.50	.210
	Experimental	9.74	0.81	9.32	.220
<b>Reading outcome</b>	Control	7.25	0.55	7.38	.190
	Experimental	10.05	0.78	9.92	.200
<b>Reading curiosity</b>	Control	8.85	0.75	9.05	.300
	Experimental	12.26	1.69	12.05	.310
<b>Integration into reading</b>	Control	8.60	0.68	8.59	.320
	Experimental	12.79	1.27	12.80	.330
<b>The</b>	Control	9.20	1.01	9.31	.220

<b>competition</b>	Experimental	10.47	0.51	10.36	.230
<b>Social aspects</b>	Control	12.90	1.92	12.72	.450
	Experimental	14.84	1.34	15.03	.470

Table (5) shows that there are differences between the estimates of the experimental and control groups in the eleven fields of motivation, in favor of the experimental group. Accordingly, the constructivist education program had a statistically significant effect on improving the experimental group's estimates in the eleven fields of motivation.

The two means and standard deviations of the pre- and posttests were extracted for the two study groups in the fields of motivation towards reading, according to the variable of teaching strategy, to determine the significance of the difference between the average performance of the experimental and control groups in the fields of motivation towards reading together, as shown in Table (6).

Table 6: averages and standard deviations of the pre and post tests for two groups (experimental and control) in the fields of motivation towards reading together

Group	Pre- test		Post-test	
	Average	standard deviation	Average	standard error
Control group	77.20	4.71	90.85	2.52
Experimental group	75.00	3.82	117.26	4.71
Total	76.13	4.38	103.72	13.88

\*Maximum degree = 141, Minimum degree = 47

Table (6) shows that there is a difference between the average estimates of the experimental and control groups in the field of motivation towards reading together, where the average of the estimates of the experimental group was higher than the average of the estimates of the control group. One-way ANCOVA was used to test the significance of the difference in the estimates of the experimental and control groups in the fields of motivation towards reading together after adjusting for the effect of the pre-test. As shown in Table (7)

Table 7

Source	Sum of squares	Degrees of freedom	Mean squares	F	Sig	Eta square
Pre-test	12.82	1	12.82	0.91	0.35	0.03
Teaching strategy	6504.69	1	6504.69	461.50	0.00	0.93
The error	507.41	36	14.01			
Total	426857.00	39	12.82			

The results of the accompanying one-way analysis of variance in Table (7) showed that there is a statistically significant difference (05) between the average estimates of the experimental and control groups in the areas of

motivation towards reading together, in favor of the experimental group.

To compare the mean estimates of the experimental and control group after adjusting

for the effect of pre-differences in the estimations of the fields of motivation towards reading together, the adjusted averages of the estimates of the two study groups in the fields of motivation towards reading together were calculated before and after adjusting for the pre-differences. As shown in Table (8)

Table 8: *The averages of the experimental and control groups in the field of reading motivation together, before and after adjusting for pre-differences*

Group	Pre- test		Post-test	
	Average	standard deviation	Average	standard error
Control group	90.85	2.52	90.70	0.85
Experimental group	117.26	4.71	117.42	0.88

Table 8 shows that there is a difference in the estimates of the experimental and control groups in the field of motivation towards reading together and in favor of the experimental group. Based on the results of the accompanying one-way variance analysis, the constructivist education program has a statistically significant effect on improving the performance of the experimental group in the fields of motivation towards reading together and explains 93% of the variance in motivation.

## II. Discussion of the Results and Recommendations

Discussing the results of the study question, which states: "Are there statistically significant differences at the level of significance ( $\alpha = 0.05$ ) between the pre and post arithmetic averages for the performance of a sample of fourth grade students on the reading motivation scale due to the teaching strategy variable (conventional method, constructivist learning model)?"

The results of the study showed a difference in the estimates of the experimental and control groups in the areas of motivation towards reading and favoring the experimental group. Based on these results, the constructivist education program has a statistically significant effect on improving the performance of the

experimental group in the fields of motivation towards reading together.

The researcher attributes this result to the fact that constructivist learning motivates students to be more enthusiastic and interested in the lesson through their great interest in the processes of exploring information from its various sources, as well as in the process of discussion during the lesson, giving opinions, and interpreting.

This result can also be attributed to the Engagement stage, in which students are encouraged to learn - when the teacher attracts the students' attention and arouses their interest in what he wants to deliver, whether it is a new lesson or a specific problem to which he wants them to find an answer. This stage tries to stimulate students' interest in the subject and get them ready to learn (Amer, 2014).

This can also be related to the fact that constructivist learning is more realistic than conventional learning, because constructivist learning focuses on students' abilities that helps to deal with real-world situations and provides realistic and logical solutions.

The researcher also relates this result to the teacher's role. Since positive or negative reactions are developed based on how the teacher interacts with the student, the more positively the teacher regards the students, the more motivated they are to read.

The effect can also be attributed to the students' personal interactions; where positive attitudes between students lead to the establishment of positive relationships towards school and learning, which enhances their motivation to read.

The current study's findings agreed with the findings of the Al-Zoubi study (2014), which found a statistically significant difference in the post-application of the reading motivation scale in favor of the experimental group, and the findings of the Bani Issa study (2016), which found statistically significant differences due to the effect of the constructivist teaching model on the level of motivation, and in favor of the group that was taught. And the findings of the

Surrey (2016) study, which found statistically significant differences in the performance of the two groups in favor of the experimental group in the level of motivation towards learning mathematics, as well as the findings of the Dindar (2016) study, which found an improvement in the level of motivation towards learning science among students in the constructivist learning environment, And the findings of Hassan's (2017) study, which found that using the constructivist "Baby" model had a statistically significant influence on acquiring self-motivation to learn.

The current findings confirmed those of the Al-Rahamna study (2019), which found an effect of using the Bybe strategy on students' motivation to learn history, favoring the experimental group, and the Tohamey study (Tohamey, 2020), which found an effect of using the constructivist learning model on students' motivation to learn text analysis and creative writing skills, favoring the experimental group. And the results of the study of Yan and others (Yan, et al., 2020), which showed an effect of the constructivist learning model on the level of motivation towards reading, in favor of the experimental group.

### Recommendations

The following recommendations can be made based on the study's findings:

- Conducting studies and research on the obstacles facing teachers in applying modern teaching strategies, the ideas of constructivist learning theory, or about students' attitudes and acceptance of the constructivist approach to learning.
- Conducting field studies to identify students' preferred constructivist learning environments, particularly at all academic levels.
- Inclusion of practical models and lessons in Arabic language curricula based on constructivist theory methodologies, particularly constructivist teaching; to help Arabic language teachers in their teaching.

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