

## **Effects of Using Flipped Classroom Strategy on Students' Achievement and Attitudes towards Learning Grammar**

### **A Case Study of First Year Secondary School Students, Tahtheeb Secondary School, Saihat, Saudi Arabia**

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#### **Abstract**

This study aimed at finding out the effects of using the Flipped Classroom strategy on first year secondary school Students' achievement and attitudes towards learning English grammar. Also, it aimed at comparing teaching English grammar through the Flipped Classroom and the lecture-based strategy. The study adopted both the descriptive analytical and the experimental methods. The study sample consisted of (100) first year students who were chosen randomly from Tahtheeb Secondary School during the academic year 2022/2023. The sample was divided into two groups, an experimental group and a control group. Four tools were used to collect the data: a pre-test, some online-quizzes and worksheets, a post-test and a questionnaire. The Statistical Packages for Social Sciences (SPSS) software was used for data analysis. The study reached the following findings: The average scores of the achievement of the experimental group is higher in the post-test than in the pre-test (from 65.40% to 81.65 %) with (16.25 %) improvement. Also, the comparison of the average scores of the experimental and control groups revealed that the experimental group's score is higher than the control group in the post-test with (8.9%) improvement. The questionnaire was distributed to the experimental group to assess their attitudes towards the Flipped Classroom. The results showed that the majority of the students in the experimental group (86.04 %) have positive attitudes towards the strategy as they strongly agree that it positively affected the learning environment. Also, (87.7%) of the respondents strongly agree that they were satisfied with the Flipped Classroom as it helped them to come prepared before the class. The study recommends using the Flipped Classroom strategy in teaching grammar. Also, training teachers on how to apply this strategy before they can practice it. In addition, the teacher's guide should include step-by-step explanation of how to apply the strategy. It is also recommended that when preparing videos for the Flipped Classroom strategy, it is effective to use videos recorded by the teacher. The study suggests the following topics to be researched: effects of Flipped Classroom strategy on teaching English vocabulary and comparison between teaching English grammar through Flipped Classroom strategy and online-based teaching.

**Keywords:** Flipped Classroom-Learning Management System-blended learning

## 1. Introduction

As most students become highly interested in new technologies, their learning habits and needs change. Consequently, education should also change to integrate these new technologies to meet those new learning habits and needs. Students nowadays spend most of their time using at least one of the technological devices such as smart phones or laptops. So, the Flipped Classroom strategy has recently emerged in response to these changes in education and particularly in the classroom settings. These changes include the expectations of students and the limited classroom time allotted for practising activities which enhance the production of English language.

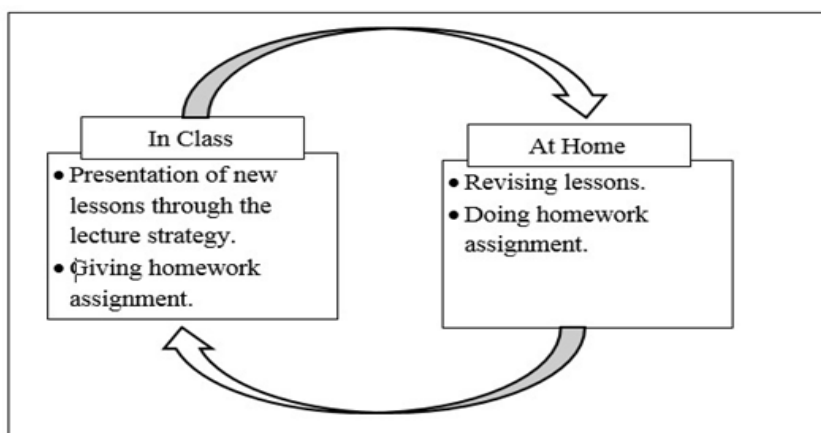
## 2. Statement of the Problem

According to English test results, students at Tahtheeb Schools face difficulties in understanding English grammar. They also lack motivation towards learning it. From the review of literature, it is indicated that the Flipped Classroom strategy is effective in both students' performance and attitudes towards learning. However, there is very little empirical data to explain how much students can learn from the strategy in learning English grammar. Although some studies have proved that the Flipped Classroom strategy applied to English teaching and learning has had positive impacts on students' attitudes, participation, and performance, this strategy had not yet been fully examined either in teaching grammar or in Saudi context of English teaching and learning. So, this study investigates the effects of using the Flipped Classroom strategy on first year secondary school Students' achievement and perspectives towards learning English grammar at Tahtheeb Secondary School in Saudi Arabia.

## 3. Definition of Flipped Classroom

Lage, Platt and Treglia, (2000) define the Flipped Classroom strategy as *“the Flipped Classroom means that the events that traditionally take place in the classroom, take place outside the classroom and vice versa”*. Similarly, Baker, (2011) describes the Flipped Classroom as *“The Classroom Flip”* in which the lecture part of the lesson is moved outside of the classroom and the “homework” is done in the classroom. In the same way, Bishop, (2013) describes the Flipped Classroom strategy as a type of blended education in which students are exposed to the learning materials through video recordings whereas the homework is transferred to the classroom. Likewise, Jeff, (2016) concludes that the Flipped Classroom strategy is when the presentation phase of the lesson is moved from the class to an educational online platform and the actual classroom time is used for giving students activities to do as homework assignments. Similar to these basic definitions, Ahmed, (2016) defines Flipped Classroom as a reverse in the traditional teaching strategy. The Flipped Classroom happens when the class time is devoted to doing homework

assignments. Figure (1) below illustrates the Flipped Classroom strategy as described in these definitions. It is called as such because of the reversal of the traditional order of the classroom practice in which students are first exposed to new materials outside of class and then the class time is used to do the difficult part which is the practice and production of these materials.



**Figure (1) Basic Definition of the Flipped Classroom**

In these definitions, the Flipped Classroom is viewed as a teaching strategy in which teachers give the chance to students to view the learning materials before they come to class at home. At the same time, the face-to-face interaction is devoted to doing activities. Also, in these definitions, the Flipped Classroom is seen as a form and product of blended learning. Though it is true that the Flipped Classroom strategy shares many characteristics of blended learning, the definition which regards the Flipped Classroom as blended learning is general to the extent that it includes any use of educational technology. In addition, these definitions do not indicate and describe clearly the implementation of this strategy. They would imply that the Flipped Classroom simply represents a re-ordering of the settings of the learning process. In practice, however, the strategy has many other elements which are not included in these simple definitions.

There are other definitions which are more specific and explain exactly what is done in a Flipped Classroom setting. For example, Strayer, (2012) defines the Flipped Classroom as a more active, student-centred style of teaching which applies active learning techniques, such as cooperative learning, projects, experiments, and class presentations that are implemented during classroom time with direct lecture-based teaching being used during the time when students are out of class, usually through online videos that students view prior to coming in class. Another more specific definition is proposed by Sams and Bergmann, (2012). They define the Flipped Classroom strategy as teaching students via a

video which they can watch at home or generally outside the classroom. Meanwhile, the class time is devoted to doing activities which give students the chance to practise the materials being taught. The type of activities used should be engaging and enhancing students' critical thinking, cooperation and self-study skills. The class time should be spent on activities which support students on the difficult areas which they do not fully understand. Also, Johnson, (2013) describes the Flipped Classroom as information provided outside the classroom through various media types, including, but not limited to, using screen capture software to record the teacher's lecture which can be seen later by students. Inside the classroom, students do and complete their homework, carry out creative thinking exercises either individually or in groups with the support of the teacher. The main focus of class time is on the application of the new knowledge being taught.

So, in these definitions the learning process order is "*flipped*" when the direct teaching and presentations are viewed at home through recorded videos before the lesson. As a result, more time in the classroom is devoted for practising and carrying out activities that enhance students' participation. This can be done through the application of active learning strategies, such as collaboration, cooperative learning, pair work and other strategies which develop thinking skills. These definitions also consider the Flipped Classroom as a product of blended learning because technology and face-to-face interaction are integrated. It is considered as a form of blended learning because students can view learning materials out of class through the use of one of the commonly used technology which is the video. For the purpose of this study, the Flipped Classroom strategy is defined as presenting the assigned English grammatical lessons to first year secondary school students through videos either recorded by the teacher or they are already available in "YouTube" which will be downloaded and then uploaded to the "Easyclass" platform used by the school. These videos are made available for students prior to the lesson to be watched at home. The classroom time is devoted for active learning and practising the grammatical rules.

#### **4. Flipped Classroom and Grammar Teaching**

According to Al-Mekhlafi, (2011) teachers normally approach grammar teaching without taking into account the problems that their students face in learning grammar. Some teachers introduce the language as formulas and rules. These rules should be kept by heart by students and then later to be tested. As a result, students have problems in producing accurate English sentences and moreover, they lack the ability to communicate fluently in English. Flipping an English classroom when teaching grammar can have advantages for both English teachers and students since it allows the teacher to focus on helping students develop their communication skills. Learners have more time to communicate in

actual, meaningful interaction in the target language in class, where the teacher is available to offer feedback and assistance. Because it is difficult for students to interact in the target language outside the classroom, class time should largely be spent on communication. Alsowat, (2016) agrees that the Flipped Classroom has positive effects on learning English skills. It is always important for students to view the learning materials before they come to class. Also, it is even more important to give students ample time for practising the target language. It is observed that in countries, where English is taught as a foreign language, students face difficulties in applying the language skills and knowledge that they acquire in class. So, these students can benefit from the implementation of the Flipped Classroom strategy as they have the chance to carry out active learning tasks during class time. Since students must receive linguistic input before they can be expected to produce the output necessary for communication, in the Flipped Classroom, the input is given in a video format to be watched out of the classroom. Therefore, in a flipped communicative language class, the grammatical rules are presented for the first time before class. Then, class time is mainly dedicated to providing students with opportunities to produce output and interact with each other. As the main aim of out of class activities is to prepare students to successfully complete the interactive activities in class, the result is that students will feel comfortable, confident and ready to express their ideas in English.

### **5. Previous Studies**

Several studies highlighted the positive effect of the Flipped Classroom strategy on students' achievement and motivation. The review of the literature shows that many Flipped Classrooms were being implemented by secondary school teachers and higher education lecturers in different countries around the world including Saudi Arabia. Also, the review of literature shows that researches in the field of Flipped Classroom on different subject matters have grown significantly in the past few years. However, few studies have been found on the impact of this strategy on teaching English skills in general and grammar in particular. Lage Platt, and Treglia, (2000) published a study entitled "*Inverting the Classroom: A Gateway to Creating an Inclusive Learning Environment.*" The aim of the study was to meet the needs of students with different learning styles by giving them options to learn outside of class through videos and to increase interaction among students and teachers inside the classroom through various exercises and activities. The researchers noted that this strategy increased students' sense of responsibility towards their own learning. There was also evidence of support and accountability from the teacher's side. Teachers were available to answer questions in an Internet chat room, design interactive quizzes for students to test their knowledge, and prepare worksheets to check completion of homework. Inside the classroom students worked on experiments, labs and completed activities by themselves under the guidance of the teacher. The overall

students' perceptions of the course were positive, and teachers observed an increase in motivation in their students.

In 2012, Marlowe conducted a study which entitled "*The Effect of the Flipped Classroom on Student Achievement and Stress*" to find out the views of some high school students who were in their second year at Dubai American Academy which is located in Dubai, United Arab Emirates. The main focus was on how the Flipped Classroom helps in better understating to the main concepts and to what extent can the Flipped Classroom support differentiation of learning. The study consisted of (19) students both males and females who were studying an Environmental Systems and Societies course. Students were asked to watch videos before they came to class. Also, students were required to write questions if they faced any difficulty in understanding. At the same time, during the class hour students were required to ask questions related to the videos. Also, students were required to do projects, work in the lab and do researches. The results of this study showed that students preferred the Flipped Classroom strategy more than the classical lecture. Especially, the activities that they were required to do during class. The increase in students' performance was clearly seen in the formative assessment compared to the summative assessment. The class average of the two formative quizzes for one of the topics was (85%) compared with a (92%) average on the same topic summative test. In formative quizzes, the low average was (70%) while the low grade in the summative test was (77%). Although the results of this study indicated that students preferred the Flipped Classroom strategy, the researcher did not focus on his role as a facilitator who should always be available to support, motivate and interact with students. The Flipped Classroom strategy is not about giving students the learning materials prior to class time and then students come the next day to do exercises and work for their own. The focus of the Flipped Classroom strategy is on enhancing the interaction between the teacher and the students.

According to a case study report from Pearson Education, (2013) entitled "*Flipped Learning Model Dramatically Improves Pass Rate for at Risk Students (Case Study)*", Clintondale was a school with below average pass rates compared to the core content areas of Math (56%), English (48%), Science (59%), and Social Studies (72%). Using the pass rate as an indicator of achievement, Clintondale started to apply the Flipped Classroom strategy with students who were low achievers in Social Studies. At the end of the course, there was a (100%) passing rate reported. After these results, the high school then expanded the flipped concept to all first year high school classes and as a result they got similar results. The school reported an increase of (9%-19%) in passing rates from the previous year. The teachers in this case study followed the same Flipped Classroom strategy of providing lecture videos outside of class and applying more active learning tasks within the class. Teachers and students also noted a significant increase in the time of face-to-face interaction, which they



perceived to contribute to the increase in pass rates. Clintondale's academic challenges led teachers to change their teaching approach. In their case, they found that the only way to improve the learning standards of their students was to flip the teaching environment.

The last contribution is the study conducted by Alsowat, (2016) entitled "*An EFL Flipped Classroom Teaching Model: Effects on English Language Higher-order Thinking Skills, Student Engagement and Satisfaction*". The study was carried out at Taif University in Saudi Arabia. It investigated the effect of a suggested English Flipped Classroom Teaching on graduate students' English higher-order thinking skills, participation and satisfaction. The sample of the study comprised (67) graduate female students. The sample was divided into two: an experimental group which included (33) students and a control group which consisted of 34 students. These students were studying an English course at Taif University. The researcher used the Flipped Classroom strategy to teach the experimental group. On the other hand, the control group was taught through the conventional lecture mode. The study used a pre-post "Higher Order Thinking Skills" test and two Likert scale questionnaires. In addition, an engagement scale and a satisfaction scale were used as data collection tools. The findings of the study showed statistically significant differences between the two groups in terms of the levels of higher order thinking skills in favour of the experimental group. Also, there was significant difference between the pre and post administration of the engagement scale in favour of the post application. Moreover, students' satisfaction was high.

## **6. Study Design**

The study applied the experimental method. Therefore, four classes of first year secondary school students were selected to be the sample of the study. Classes (A and B) were the experimental group whereas, classes (C and D) formed the control group. The control group was taught the assigned English grammar lessons using the lecture-based teaching setting. The other two classes (A and B), which were the experimental group, learned English grammar through the Flipped Classroom strategy. All students were pre-tested on the assigned English grammatical lessons before the treatment and then post-tested after it. Differences in scores between the pre-test and the post-test were analyzed, results were evaluated and hypotheses were tested. In addition to the pre-test and the post-test, a questionnaire was used to assess students' attitudes towards English grammar and the Flipped classroom strategy. The responses were analysed using the Statistical Packages for the Social Sciences (SPSS). Finally, conclusions and suggestions were formulated.

## **7. Sampling**

The study was conducted during the second semester of the 2022/2024 academic year at Tahtheeb Secondary School for boys in the Eastern Province of Saudi Arabia. The school is owned by Tahtheeb Company for Educational Services. It was considered an ideal setting for the application of the Flipped Classroom strategy as the school's infrastructure is suitable for e-learning. The school was equipped with a learning management system called "Easyclass", which was accessible to all students. Each student had a laptop and was already familiar with "Easyclass" platform; therefore, the participants did not need training regarding the use of this platform. In addition, the teacher was also familiar with it and had recently taken a Flipped Classroom strategy training course which was offered by the researcher. For all these reasons, the researcher selected this sample in particular because Tahtheeb Secondary School offered the most convenient conditions for both the teacher and the students to apply a Flipped Classroom experience. The students were all Saudi nationals. In the secondary stage, they used the Saudi governmental English book entitled "Traveller, KSA edition". At the time of the study, the school had a population of (300) students and they were almost of the same age. The total number of students in the first grade was (100). So, the sample consisted of (100) students representing four classes. They were divided into two groups: an experimental group which consisted of (50) students which were classes (A) and (B) and a control group consisted of (50) students which were classes (C) and (D). Students in these classes were almost of the same English language proficiency as measured by the average scores of their final exam which was administered in the first term. Additionally, the pre-test was also used as a baseline to determine whether the experimental and control group had similar grammatical knowledge at the beginning of the study. Table (1) below shows students' average scores in both the first term final exam and the pre-test. The table clearly indicates that the experimental group and the control group had similar English proficiency. The differences between the two groups were not of statistical significance.

Group	Class	Number of students	Average scores of English 1st term exam	Average scores of the Pre-test
Experimental	A	25	78.6 %	65.1 %
	B	25	75 %	65.7%
Control	C	25	79 %	67.3 %
	D	25	76 %	66.9%

**Table (1): Students' average scores in the first term final exam and in the pre-test**



The researcher started by planning and preparing the required materials for the Flipped Classrooms. With technical support from the IT specialist in the school, the English teacher video-recorded the required educational videos. These videos were edited using *Camtasia studio* software. Then, they were uploaded to the “Easyclass” platform. Easyclass is a free Learning Management System (LMS) that enables teachers to create digital materials which they can store online; interact with students either online or offline and design digital assignments and quizzes. After uploading the required videos, students viewed the videos before they came to class the next day. From the previously reviewed literature, it was determined that it was difficult to ensure which students watched the videos on time as tracking students who watched the videos was not available in the Easyclass platform. To know which students watched the videos required by this study, students were asked to take an online quiz after watching the video. The quizzes were online and graded immediately once submitted. The study consisted of (14) English grammatical lessons presented in video format to the experimental group. The videos were selected from the lessons which were planned to be taught during the second semester. The lessons were selected according to the content analysis made by the teacher and under the supervision of the researcher. These recorded lessons aimed at helping students understand the grammatical concepts through the PowerPoint presentations and the various multimedia files which accompanied them. All selected lessons were introduced in short videos which lasted 10-15 minutes.

As the review of literature indicated, the in-class time was devoted for cooperative learning, pair work and discussions. Special worksheets were also used during class time. The teacher’s role in this study was to be a facilitator. Furthermore, the teacher’s most significant role was to monitor and give assistance. Though direct teaching is not recommended in a flipped classroom, there were certain opportunities in which direct teaching was used in order to clarify a point or redirect a misconception when the majority of the students required support. At the beginning of the class, the teacher normally started with discussion, beginning with any questions the students had. The purpose of the discussion was not to give a complete review of the topic covered, but to get feedback on what was not understood, or to give deeper explanations. Students then completed their “homework” in class in groups or in pairs.

## **8. Tools of Data Collection**

Since the study aimed at investigating the effects of using the Flipped Classroom strategy on students’ achievement and attitudes towards learning grammar, three tools were used, namely: a test which was used as a pre-test and a post-test and a questionnaire to measure students’ attitudes.

### **8.1. Pre-Post Test**

An English test was designed by the researcher to assess students’ grammatical knowledge before and after the experiment. The test was mainly grammar-based and it focused on the grammatical lessons which were planned to

be taught during the second semester. The test consisted of three main questions. The first question was in the multiple choice format; it consisted of (25) sub-questions. Each question had four distracters (A, B, C and D); only one answer was correct, and one point was given to each correct answer and zero for each wrong choice. Question two and three required students to write. Question two focused on changing affirmative sentences into negative ones. This part contained five sub-questions. As for question three, students were given verbs in base form and they were asked to put them in the correct forms according to the tense of the sentence. The total score of the test was (40) points, one point for each question except for question three which was given two points for each correct answer. By the end of the experiment, the same test was administered as a post-test after (14) weeks.

### **8.2.The questionnaire**

The questionnaire was distributed to the experimental group only to assess students' attitudes towards the flipped classroom strategy after the experiment. The questionnaire included (22) statements which were scored using a 5-point Likert scale (strongly agree - agree - neutral - disagree - strongly disagree). The questionnaire focused on five major themes including mastery learning, pacing, time, social media and videos and the availability of communication and collaboration in the Flipped Classroom settings. Overall, the questionnaire aimed to determine if the attitudes were positive or negative and to gather any relevant information on how students perceived the Flipped Classroom activities.

### **9. Tools for Data Analysis**

In order to analyse the collected data, the Statistical Packages for the Social Sciences software (SPSS) for Windows was used. Certain statistical measures were calculated: Means, percentages, T-tests and averages were used to compare between the results of the experimental and control groups. The pre-test data for students' English grammatical achievement overall was examined for normality between the control and experimental groups. To check the homogeneity between the groups, an independent t-test was calculated using SPSS. To determine if there was a statistically significant difference in the mean post-test scores between the experimental and control groups, the t- tests were also used.

### **10. Results of the pre and post-tests**

#### **10.1. The pre-test**

The pre-test was marked manually and analysed by (SPSS) software. The T-test, the mean and P-value were used to compare the results of the control and experimental groups. The pre-test was administered to determine whether or not the experimental group and the control group were similar in their grammatical knowledge before the experiment. Table (4.1) below shows the results of the pre-test scores of the two groups

before the experiment. The mean score of the experimental group was (26.16) and the mean score of the control group was (26.84). The P-value (0.61) showed that there was no significant difference between the mean scores of the experimental and control groups before the experiment which means that the two groups had the same English grammatical knowledge before the experiment.

Group	Experimental Group	Control Group	P value	Confidence interval
Mean	26.16	26.84	0.61	-0.68
SD	4.62	8.36		
SEM	0.65	1.18		
N	50	50		

### 10-2. Results of the post-test

The post-test was administered to compare the results of the students after the experiment to find out which strategy was more effective, the Flipped classroom or the lecture-based teaching. Table (4.2) below shows the T-test results of both the experimental and control groups in the post-test. As seen in the table the mean score of the experimental group was (32.66) whereas the mean score of the control group was (29.10) and the P-value was (0.0070). This means that there were statistically significant differences between the mean scores of the two groups in the post-test.

**Table (2): Results of the T-test of the experimental and control groups in the pre-test**

Group	The Experimental Group	The Control Group	P value	Confidence interval
Mean	32.66	29.10	0.0070	3.56
SD	5.12	7.57		
SEM	0.72	1.07		
N	50	50		

**Table (3) Results of the T-test of the experimental and control groups in the post-test**

### 10.3. Results of the Questionnaire

To measure students' attitudes towards the Flipped Classroom Strategy, a 22-items, five-point Likert questionnaire, ranging from (strongly agree to strongly disagree) was designed and distributed to the experimental group only after the experiment. Items one, two, three, four and five were concerned with the

communication environment which the flipped classroom offers. Students responded positively towards the communicative settings of the flipped classroom and the opportunities which students found to communicate with the teacher and their classmates. The average score of students who strongly agreed with the statements was (86.04 %). At the same time, (7.9 %) of students agreed with the statements. However, only (3.62%) disagreed and (1.14%) strongly disagreed with the statements. The results of item six, which focussed on students' satisfaction, did not show that students were satisfied with the Flipped Classroom as a strategy that enhances student-self-study skills. Only (42.3 %) of students strongly agreed that the flipped classroom strategy helped them explore their strategies of learning. Whereas (26.9 %) mentioned that the flipped classroom had no effects on their learning strategies.

In item eight and nine of the questionnaire, it was showed that students were in favour of being ready for class before they came. The statement "The use of the flipped classroom encourages me to learn independently" in item ten received an average of (51.9%) of those students who strongly agreed, (15.5%) agreed, (9.6%) were neutral, (17.3%) disagreed and (5.8%) strongly disagreed. Items eleven and twelve showed that most students (79.8%) and (15.4%) either strongly agreed or agreed that the flipped classroom had positively influenced their grammar knowledge. At the same time only (4.8%) of students did not agree that the flipped classroom strategy had positive impact on their grammar learning. As for improving class time, item thirteen indicated that (78.8 %) of students strongly agreed that class time was used effectively and (17.3%) agreed whereas only (1.9 %) thought that the flipped classroom did not help to effectively use class time.

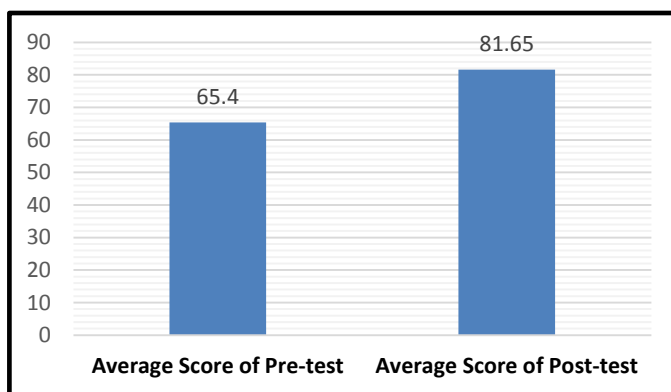
Item fourteen was directed to find out students' reaction towards the videos used in the Flipped Classroom strategy. The majority of students (92.3 %) strongly agreed that they watched these videos and (5.8%) agreed that they watched the videos, whereas only (1.9 %) mentioned that they did not watch the assigned videos. In fact, the key to success of the Flipped Classroom is whether the students actually watch the required videos outside of class. If they do not, the teacher cannot apply the active learning tasks inside the classroom. Many strategies have been suggested for teachers to use to ensure that students really watched these videos. This study was able to overcome this challenge and motivate the students to watch the videos due to the follow up procedures that the teacher carried out. In addition, the accompanied quizzes were also effective elements which motivated students to watch the videos. So, students knew that they were being tracked and their progress evaluated.

In addition, almost all students (98.1 %) proved that they did not need any technical support to watch the videos in Easyclass as shown in item fifteen. This clearly proved that the choice of the population of the study was successful as it was assumed that students were familiar with the system. Item sixteen showed that almost all students (91.5%) believed that the online components of the flipped classroom effectively

reinforced what they were learning in the face-to-face sessions. At the same time (100 %) of the students considered the contents of the videos used were clear as indicated in item seventeen. When asked about whether or not the flipped classroom helps if the student is absent in item eighteen, only (46.2 %) strongly agreed and (11.5%) agreed that the flipped classroom could help them if they were absent. The reason was that students at Tahtheeb Secondary School did not have high absence rates. Most of them were highly dedicated students who were normally present. Items nineteen, twenty and twenty-one were mainly directed to assess students' attitudes towards the Flipped Classroom. The majority of students in the experimental group (93.4%) strongly agreed that they were satisfied with the Flipped Classroom experience. In addition, a high percentage of students (91.8%) replied that they liked the flipped classroom experience more than the only face-to-face classroom setting as indicated in item twenty-two.

### Discussion of Hypotheses of Study in Relation to the Results

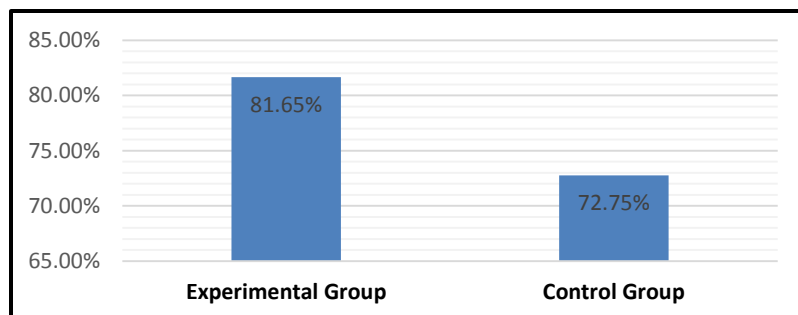
**Hypothesis One:** *The flipped classroom strategy has positive effects on first-year secondary school students' achievement in grammar.*



**Figure (2) Comparison of pre-test and Post-test Results of the Experimental Group**

Results in Figure (2) above showed that the average scores of the achievement of the experimental group was higher in the post-test than in the pre-test (from 65.40% to 81.65 %) with (16.25 %) improvement. In addition, the T-test of the mean scores of the experimental group in the pre-and post-tests revealed that the difference in students' improvement average was considered to be very statistically significant as measured by the (SPSS) software. This clearly indicated that the Flipped Classroom had positive effects on students' achievement in English grammar.

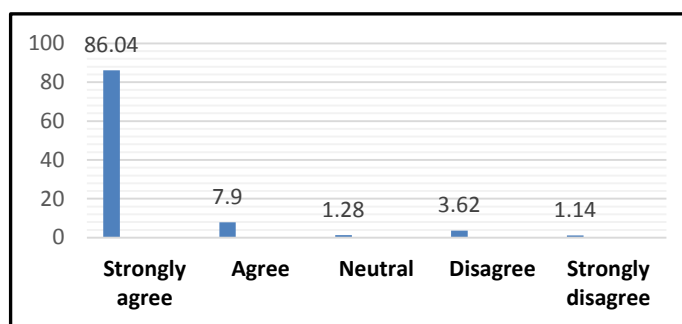
**Hypothesis Two:** *The flipped classroom strategy is more effective than the lecture-based strategy in teaching grammar:*



**Figure (3): Comparison between the experimental and control groups in the post-test**

Results in Figure (3) above showed that when the average scores of the experimental and control groups were compared, the experimental group scored higher than the control group in the post-test with (8.9%) improvement in the experimental group. This means that the flipped classroom strategy was more effective than the lecture-based strategy in teaching English grammar. In addition, the T-test analysis showed that the difference between the experimental group scores and the control group scores was very statistically significant.

**Hypothesis Three:** *The students who will learn through the flipped classroom strategy (the experimental group) will have positive attitudes towards learning grammar and the flipped classroom.*

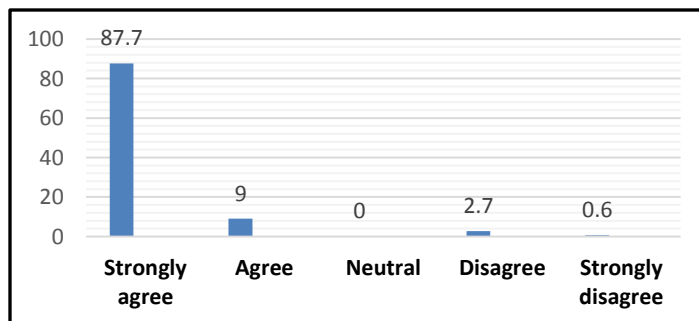


**Figure (4): Results of students' responses to the questionnaire for items measuring the effects of the flipped classroom strategy**

Figure (4) above showed the average percentage of the responses which measured the effects of the strategy on enhancing the communication environment. When calculating the average of the items, it was found that the majority of the students in the experimental group (86.04 %) had positive attitudes towards the strategy as they

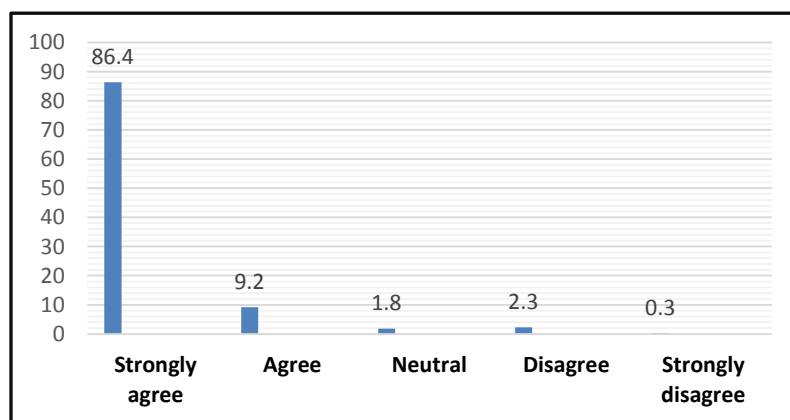


strongly agreed that it positively affected the learning environment. Also, (7.9%) agreed with the same statements. On the other hand, only (3.62%) and (1.14%) of students reported that the strategy had no positive effects on the learning environment.



**Figure (5): Results of students' responses to the questionnaire for items measuring students' satisfaction.**

Results in Figure (5) above showed students' responses to the questionnaire which measured students' satisfaction. The majority of students (87.7%) strongly agreed that they were satisfied with the Flipped Classroom as it helped them to come prepared before the class. In addition, some students (9%) agreed with the statements and only very few students (0.6%) strongly disagreed with the statements.



**Figure (6): Results of students' responses to the questionnaire measuring students' attitudes towards learning grammar through the Flipped Classroom strategy.**

The results in Figure (6) above, showed the percentages of students' responses to the items from eleven to sixteen. Those items were mainly directed to measure students' attitudes towards learning grammar through the Flipped Classroom strategy. Results showed that most students (86.4%) strongly agreed with the statements and (9.2%) agreed while only very few students (2.3%) disagreed and (0.3%) strongly disagreed.

To sum up, the results of the items which directed to assess students' attitudes towards the Flipped Classroom strategy proved that (93.5%) of students in the experimental group either strongly agreed or agreed which means that students had positive attitudes towards learning grammar and towards the Flipped Classroom strategy.

## **11. Findings**

1. The Flipped Classroom strategy improved the grammar achievement of the students from (65.4 %) in the pre-test to (81.65 %) in the post-test with (16.25 %) improvement compared to (5.8 %) improvement in the post-test of students who were taught through the lecture-based strategy.
2. The study proved that the Flipped Classroom strategy can positively affect students' attitudes towards learning grammar as the majority of the surveyed participants either strongly agreed or agreed that the strategy had positive influence on their understanding of the assigned grammatical lessons.
3. The strategy enhances students' engagement and satisfaction.

## **12. Recommendations**

1. Teachers should use the Flipped Classroom strategy in teaching grammar,
2. Teachers should devote class time for carrying out active learning tasks,
3. It is necessary to train teachers on how to apply the flipped classroom strategy before they can practice it.
4. It is recommended that grammar textbook designers are advised to include the lessons which can be taught through the Flipped Classroom strategy in order to provide different types of learning styles to shift the focus from teacher to learner. Also, the teacher's guide should include step-by-step explanation of how to apply the strategy.
5. Student accountability is vital and teachers must have ways of identifying and intervening with students who have failed to perform their flipped learning outside of class.
6. The videos which are used in the Flipped Classroom strategy should be recorded by the teacher. This feature may increase student interest and participation during their viewing of the lesson. Seeing how the teacher reacts to the material can increase the closeness that students feel with that teacher and provide them with a sense of the teacher's personality and teaching style. This may improve students experience of the lesson video component of the flipped classroom.

## References

- 1-Ahmed, H. (2016). “*Flipped Learning as A New Educational Paradigm: An Analytical Critical Study*”. European Scientific Journal, 12(10), p.421.
- 2-Al-Mekhlafi, A. (2011). “*Difficulties in Teaching and Learning Grammar in an EFL Context*”. International Journal of Instruction, 4(2), pp.69-92.
- 3-Alsowat, H. (2016). “*An EFL Flipped Classroom Teaching Model: Effects on English Language Higher-order Thinking Skills, Student Engagement and Satisfaction*”. Journal of Education and Practice, 7(9), pp.108-121.
- 4-Baker, J. W. (2011). “*The 'Classroom Flip': Using Web Course Management Tools to Become the Guide by the Side. In J. A. Chambers (Ed.)*”, p.134. Florida Community College at Jacksonville.
- 5-Bergmann, J. and Sams, A. (2014). “*Flipped Learning, Gateway To Student Engagement*”. Canada: International Society for Technology in Education, p.22.
- 6-Bishop, J. (2013). “*A Controlled Study of the Flipped Classroom with Numerical Methods for Engineers*”. P.6.Ph.D. Utah State University.
- 7-Jeff, M. (2016). “*Present Research on the Flipped Classroom and Potential Tools for the EFL Classroom. Computers in the Schools*”, 33(1), p.11.
- 8-Johnson, G. (2013). “*Student Perceptions of the Flipped Classroom*”. MA. The University of British Columbia.
- 9-Lage, M., Platt, G. and Treglia, M. (2000). “*Inverting the Classroom: A Gateway to Creating an Inclusive Learning Environment*”. The Journal of Economic Education, 31(1), pp.30-43.
- 10-Marlowe, C. (2012). “*The Effect of the Flipped Classroom on Student Achievement and Stress*”. Master of Science. Montana State University.
- 11-Pearson Education. (2013). “*Flipped Learning Model Dramatically Improves Course Pass Rate for At-Risk Students*”.
- 12-Sams, A. and Bergmann, J. (2012). “*Flip Your Classroom: Reach Every Student in Every Class Every Day*”. International Society for Technology in Education / ISTE.
- 13-Strayer, J. (2012). “*How learning in an inverted classroom influences cooperation, innovation and task orientation. Learning Environments Research*”, 15(2), pp.171-1