THE IMPACT OF USING INFOGRAPHICS TO TEACH GRAMMAR ON EFL STUDENTS' LEARNING MOTIVATION

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Abstract:

Infographics have increasingly been used in English language teaching. However, few studies have been conducted to explore the use of infographics in improving students' motivation in learning grammar. The objective of this study was to evaluate the impact of Infographics-based learning on students' motivation on an English language grammar course. The study employed an experimental research design and the participation of sixty grade-11 students studying in a high school in Mekong Delta, Vietnam. There are two groups including one experimental group (n = 30) that used the Infographics-based learning; and the other a controlled group (n = 30) which was instructed using non-Infographics-based learning technique. A questionnaire was designed to measure students' motivation after the treatment.

Keywords: infographics, visualizations, motivation, types of motivation

1. Introduction

Mastering a language involves mastering its skills including listening, speaking, reading, and writing, as well as its knowledge. Grammar is the heart of the language and it has a great effect on the accuracy of writing, reading, and speaking. In the refining and development of students, grammar has been a very significant issue. It not only clarifies how words are employed to make sentences, but also how they are transmitted. Moreover, language learning relates mostly to overall grammatical skills. Regardless of the meaning, grammar is a key aspect in the teaching/learning process. Al-Muttawa and Kailani (1989) stated the significance of grammar as the internal language organization.

They say that without knowing its grammar a language cannot be taught, as grammar has responsibility for meaning in language usage. On the other hand, grammar

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is a formula set that defines the arrangement of words and sentences to construct sentences. The English grammar includes all concepts that may be organized in English to make English phrases (Cowan, 2008). For English language learners, grammar is a must. The proper use of language prevents someone who expresses ideas and thoughts. In other words, a clear message will be made through the correct use of language. Moreover, the correct grammar is also crucial if English is to be understood as a second language which is currently a lot of information. In addition, proper grammar demonstrates someone's sign of knowledge and education. Therefore, it is very essential to understand grammar.

Grammar is regarded as a highly significant level in English teaching. The language curriculum holds a special place. Professionals in the field of language education (Batstone and Ellis, 2009, Ellis, 2006 and Nassaji and Fotos, 2004) stated that grammar is too essential to disregard, and that the growth of the students' language would be severely restricted without proper grammar knowledge. It is therefore important that English professors pay attention to grammar and enable students to grasp it, because most students do not know or know how to utilize grammatical rules while reading or writing.

Thus, teachers should use effective and attractive approaches rather than boring and common ones to teach grammar. Among the various kinds of instructional grammar approaches, graphic visualizations of materials are supported by both teachers and learners. Stokes (1997) argues that visualization is always gaining ground in conventional textbooks, helping people with previously incomprehensible material to be more transparent. Hoffler and Leutner (2011) say that "*in recent years there has been more and more emphasis on the significance of individual learning variations with visual representations*". Therefore, the researchers have thus studied the usage of several graphics that are capable of visualizing information properly. "Infographics" is one of these visualizations that have become popular. Infographics are considered one of the most efficient teaching techniques and allow students to attain a high degree of proficiency in grammar. They also enable students to grasp complicated phrases and compound words.

In addition, researchers were also drawn by the motivation component in foreign language acquisition and became a major issue for both educators and linguists. Teachers and students are aware of the key motivating elements which impact on the successful acquisition of foreign languages. The initial impulse to motivate the foreign language originates from social psychology because learning a different language might be inevitable to distinguish the conversational community from its social character. In the last forty years, the research of language learning motivation has been endorsed, which is usually one of the most fundamental concepts in foreign language learning Dörnyei (1990).

Through the years, there have been a limited number of studies that investigated the effectiveness of Infographics in promoting language learning. This paper aims to investigate the effectiveness of Infographics instruction on EFL students' learning motivation.

Two following research questions were investigated in the current study:

1) To what extent is the students' motivation for grammar learning enhanced after the course?
2) Which type of motivation, extrinsic or intrinsic, is improved more for the students to learn English grammar with Infographics?

2. Literature review

2.1 Infographic-based learning

The word "infographic" consists of the words "info" and "graphic" and it is shortened from the expression "information graphic". In general, the infographic is visual presentations of data, information, and knowledge.

An infographic is an arrangement of texts and images such as drawings and charts, combined with the use of color and white space to convey information visually. This visual representation of concepts and data can potentially help the viewer to grasp information more readily (Janalta Interactive Inc, 2014). Although infographics are not new, in recent years, they are being used more frequently in educational contexts to convey messages, relate numerical data, illustrate important concepts, and promote visual literacy skills in learners (Krauss, 2012).

One of the most commonly used visual literacy media is infographic. According to Ferreira (2014), an infographic or information graphic is a type of picture that elaborates data with design which can help individuals and organizations concisely communicate messages to their audience. Mohd Noh et al. (2014) stated that the higher learning institutions should implement infographic in the learning process.

Infographics can be used to serve different educational purposes. Since comprehensive information can be presented through infographics, they can be used for different purposes such as showing the relationship between different concepts, transferring processes and events, presentation of the content of the course and summarizing the subjects learnt (Meeusah and Tangkijviwat, 2013).

Because of these outstanding features, infographics may be a promising technique for instruction and could serve a variety of purposes. Lamb and Johnson (2014) proposed five uses for infographics:

a) organizing ideas and coherent manners in a useful way;
b) illustrating biographical, scientific, art and design, historical, and social studies concepts in a visual way;
c) comparing information in an effective way;
d) making data meaningful by providing analogies, examples, and themes; plain data can be transformed into meaningful information;
e) telling a story to convey the ideas with visuals and words in an exciting way rather than using only words;

When the persistence of visual materials on the student is examined, a well-prepared infographic is likely to make a difference and to gain importance in the field of

education (Borucu, 2015). There are several advantages of infographics in education such as reminding of existing information in normal or distance education, transferring processes and events, presentation of course content, summarizing learned information, showing relationships between concepts (Meeusah & Tangkijviwat, 2013). Another point is that infographics can help a person to remember more than 70% of the data that they have been seen, averagely (Gaille, 2016).

2.2 Grammar teaching

Grammar is as the way language manipulates and combines words (or bits of words) in order to form longer units of meaning (Ur, 1996). This definition is quite close to the common understanding of what grammar is. The main difference is that it tells us how the rules of language actually work – they arrange and shape words. Nevertheless, knowing what these rules do is not a very motivating factor alone. Crystal (2004) states that grammar is the structural foundation of our ability to express ourselves. The more we are aware of how it works, the more we can monitor the meaning and effectiveness of the way we and others use language. It can help foster precision, detect ambiguity, and exploit the richness of expression available in English.

Grammar can be defined as the science that determines the rules of a language examining its sound, form and sentence structure (Turkce Sozluk, 2009); the information of structural rules in the functioning of the language (Imer, Kocaman & Ozsoy, 2013); and the field of science that examines the sounds, word types and their structures, their arrangement and functions in the sentences and also the rules concerning their conjugation (Erdem & Celik, 2011). Without teaching grammar, which enables students to discover the nature of the language through patterns that make what is said, read and heard comprehensible; the language will become a batch of words (Azar, 2007). By means of grammar rules the individual can use the language with its all components however s/he likes.

2.3 Motivation

Most EFL contexts lack all of the factors that contribute to successful second language acquisition: English input, opportunities for interaction with native English speakers, strong role models, and widespread social acceptance of the learning of English. Learning English requires a high level of drive in the face of these obstacles. In addition to intellectual capacity and linguistic aptitude, motivation is a significant component in the effective study of language acquisition (Gardner & Lambert, 1972 cited in Xu, 2008). It is characterized as "*the mix of persistence, desire, and high representative toward learning the language*" (Gardner, 1985, p. 10 cited in Xu 2008).

2.3.1 Definitions of motivation of learning language

Although 'motivation' is a term commonly used in both educational and research contexts, it is quite surprising how little consensus there is in the literature with regard to the actual definition of this notion. Researchers appear to agree that motivation is

important for defining human conduct by invigorating it and giving it direction, but the wide diversity of descriptions put out in the literature of how this happens may surprise even the seasoned researcher.

Johnstone (1999) considers motivation as a stimulant for achieving a specific target. Similarly, according to Ryan & Deci (2000), to be motivated means to progress or to be in motion to do something. Gardner (1985) believes that motivation is a complicated mix of learner-driven elements that determine the effectiveness of language learning, including learners' efforts, their expectations to achieve a specific learning objective, and their general (positive) attitude toward language learning.

However, with its concentration on the types of motivation rather than the amount of motivation, Self-Determination Theory (SDT) (Deci & Ryan, 1985) has gained popularity in the field of language education. There are many forms of motivation depending on the reasons or aims that motivate an activity. According to self-determination theory, motivated actions can be either self-determined or controlled. Students' talents, individual characteristics, and attitudes toward the language are included in the former. These are elements that have nothing to do with the student, such as teacher behavior and the techniques they use in teaching. Taken together, this study is based on the perspectives of Deci and Ryan regarding 2 types of motivation: extrinsic motivation and intrinsic motivation.

Figure 1: Types of motivation with their Regulatory styles (Adapted from Ryan and Deci, 2000)

2.3.1.1 Extrinsic motivation

Extrinsic motivation, according to Ryan and Deci (2000), refers to actions taken to attain specified goals. Along with, Extrinsic motivation is the propensity to take part in activities because of the reasons which do not link to the activity. These reasons can be the anticipation of reward or punishment, like being successful in the exam or getting a good mark (Vansteenkiste, Lens, & Deci, 2006). Similarly, those who are extrinsically

motivated perform a certain action not because they truly enjoy it, but because of a reward that is available in their environment (Topalov, 2011).

2.3.1.2 Intrinsic motivation

Intrinsic motivation, on the other hand, is is defined as the doing of an activity for its inherent satisfactions rather than for some separable consequence Ryan and Deci (2000). By the same token, (Coon & Mitterer, 2010) stated that Intrinsic motivation refers to an action that is carried out without any evident external rewards. As a result, the activity is viewed as an opportunity to learn, explore, and maximize our potentials. Performers do so out of pure enjoyment.

2.3.2 Motivation in learning a second/foreign language

Students will be more motivated to study a second language if they have a reason to think favourably about the speakers of the language being studied, according to Cummins (quoted in Flewelling, 1994). The three factors that make up student motivation, according to Gardner (1982), are effort (the amount of time spent studying and the learner's drive), desire (the desire to become fluent in the language), and affect (the emotional reactions of the learning towards studying). Accordingly, it might be described as the numerous reasons that are part and parcel of learning a second language. Conversely, without sufficient motivation, even individuals with the most remarkable abilities cannot accomplish long-term goals, and neither are appropriate curricula and good teaching enough on their own to ensure students achievement (Dörnyei & Csizér, 1998, as cited in Huang 2007).

2.3.3 Related studies

Findings from linked research demonstrate that teaching grammar via Infographics instructions has a detrimental effect on EFL learners' motivation. This is exemplified in the work undertaken by Manowong (2017) whose study aims at exploring EFL learners' English reading and learning experiences while using online tools in a face-to-face EFL classroom. Results from the study revealed that the students viewed the use of infographics as motivating, and the easy-to-read visual texts enabled them to understand the assigned reading topics much easier.

Additionally, Infographics can also be correlated to students' achievement motivation, their need for success, receiving feedback and experience a sense of accomplishment (Nuhoğlu, & Akkoyunlu, 2017). Huseyin B., & Mobina B. (2019) also conducted a study in regard to the usage of Infographics in a flipped classroom learning environment called "Flipped Classroom Instructional Infographics". The goal of the research is to assess the perceptions and evaluate the achievements of ESL students in learning English language through flipped classroom instructional infographics. The findings of the study indicate that students' motivations in the experimental group compared to the controlled group are more triggered by the engaging and comprehensive nature of flipped classroom instructional infographics, meaning that they

could absorb the concepts easier, memorize the information faster, and become more confident in the educational process.

3. Material and Methods

3.1 Reseach design

The current study was designed as experimental research with a two-group pre-test and post-test design. In order to measure whether a treatment has had an effect or whether one treatment is more effective than another, Cohen, Marion, and Morrison (2000), Fraenkel and Wallen (2000) argue that an experimental study should be carried out with two groups of participants: an experimental group who receives the treatment and a controlled group who does not receive the treatment. The controlled group is crucially important for it enables the researcher to compare the outcomes of the two groups.

3.2 Participants

3.2.1 Teacher

One of the researchers was in charge of instructing lessons to both experimental group and controlled group.

3.2.2 Students

For the purpose of the present study, a total of 60 elementary adolescent learners including 36 (60%) males and 24 (40%) females. Most of them were students from a high school located in that city, with their ages ranging 17 to 18. There were 30 students in each class. The number of males and females is different.

Table 1: Decription the participants' characteristics in both group
in term of number, gender, age, and years of English learning

	Participants' characteristics	Group	Controlled group		Experimental group	
1	Number		30		30	
2	Gender	Male	17	56.7%	19	63.3%
		Female	13	43.3%	11	36.4%
3	Age	17	30	100%	30	100%
4	English learning experience	7 years	2	6.7%	3	10%
		10 years	28	93.3%	27	90%

3.3 Materials

Tieng Anh 11 (textbook and workbook) published by the Ministry of Education and Training together with the course book 'Destination B1 Grammar and Vocabulary' (Malcolm Mann, 2018) was selected to be the primary text-books for participants to study during the course. The books can be supposed to be relevant to the level of proficiency of the learners as it was designed to assist the learners to achieve the language objectives at the end of the course. Besides, supplementary materials of grammar lessons were

adapted and modified from the grammar book "Life" published by John Hughes (2019). The supplementary materials were designed carefully according to the learners' level of proficiency.

3.4 Research instruments

The questionnaire was designed according to Likert's scale. With Likert's scale, feasible responses for each statement ranked from 1 to 5, namely (1) strongly disagree, (2) disagree, (3) neutral, (4) agree and (5) strongly agree. The first section includes a clear statement of research objectives, an inquiry into the personal information and instruction in answering the questionnaire. The second section contains 30 items in reference to students' reasons to learn English Grammar. This section includes two clusters for Extrinsic and Intrinsic motivations, in which there were four sub-clusters for Extrinsic motivation (External regulation (items 1,8,15,19,22,29), Introjected regulation (2,9,16,23), Identified regulation (3,10,17,24) and Integrated regulation (4,11,18,2)) and three sub-clustersfor Intrinsic motivation (Enjoyment (5,12,19,26,30), Satisfaction (6,13,20,27) and Interest (7,14,21,28)). Moreover, these clusters were arranged randomly.

3.5 Procedure of the research

The overall experiment was carried out in six weeks. The Vietnamese version of the questionnaire was delivered to students in the two groups after the intervention. Finally, the data from the test, questionnaire, were analyzed.

4. Results and Discussion

4.1 The effects of using Infographic learning instructions on EFL learners' motivation

Sixty participants were asked to provide their responses to each item on a five-points Likert scale raning from strongly disagree to strongly agree.

Table 2: Reliability statistics for questionnaire

Cronbach's Alpha	N of items
.834	30

The result from measuring the reliability of the questionnaire showed that the internal reliability coefficient is significantly high. Evidently, the Cronbach's Alpha values for the questionnaire (with 30 items) is 0.834, which is above 0.70. Therefore, the above results indicated that questionnaire is valid and reliable in the research.

4.2 Student's level of motivation toward Infographic learning instructions

All of the items were categorized into two clusters including Extrinsic motivation and Intrinsic motivation along with four sub-clusters for Extrinsic motivation (External regulation, Introjected regulation, Identified regulation and Integrated regulation) and three sub-clusters for Intrinsic motivation (Enjoyment, Satisfaction and Interest).

a. Students' motivation between the two groups after the intervention

Table 3: Descriptive statistics about learners' level of motivation of two groups of participants

Motivation	N	Min.	Max.	Mean	Std. Deviation
Controlled group	30	2.73	3.83	3.36	.27
Experimental group	30	2.80	4.40	3.68	.32

Descriptive statistics were computed for the mean scores of the questionnaires to measure the participants' general motivation in learning English grammar after the intervention. The results from the questionnaire about motivation showed that the mean score of students' motivation in learning English grammar in the experimental group (M = 3.68, SD = .27) was higher than that in the controlled group (M = 3.36, SD = .32). The mean difference (MD = -.31) in students' motivation between the two conditions after the study was statistically significant (t = -4.05, df = 58, p = .00). The result also indicated that the motivation in learning grammar English of the students in the experimental group was higher than that in the controlled group. The researcher can conclude that after the study, students in the experimental group were strongly motivated in learning English grammar rather than those in the controlled group.

b. The motivation level of students within the two groups after the intervention

To examine the interaction of Extrinsic motivation and Intrinsic motivation between the two groups of participants and within each group of participants, an Independent-Samples T Test was first conducted with the results reported in the following tables:

Table 4: The comparison between Extrinsic motivation
and Intrinsic motivation of two groups of students

Extrinsic and Intrinsic motivation	Controlled Group (1)			Experimental Group (2)		
	N	Mean	SD	N	Mean	SD
Extrinsic motivation	30	3.26	.29	30	3.72	.30
Intrinsic motivation	30	3.54	.37	30	3.64	.47

As can be seen from the Table 4, the mean score of students' Extrinsic motivation of the experimental group (M = 3.72, SD = .30) was much higher than that of the controlled group (M = 3.26, SD = .29). In addition, the mean difference (MD = -.37) in students' Extrinsic motivation between the two groups was statistically significant (t = -3.72, df = 58, p = .00). In regard to Intrinsic motivation, the mean score of the controlled group (M = 3.54, SD = .37) was lower than that of the experimental group (M = 3.64, SD = .47). It is inferred that there was no difference between the two mean scores, both groups showed the same level of Intrinsic motivation in learning Grammar English (t = .14, df = 58, p = .88).

c. Comparisons of participants' motivation in learning Grammar English in terms of questionnaire components

A Descriptive Statistics Test was run on the mean scores of two clusters including Extrinsic motivation and Intrinsic motivation, along with four sub-clusters for Extrinsic motivation (External regulation, Introjected regulation, Identified regulation and Integrated regulation) and three sub-clusters for Intrinsic motivation (Enjoyment, Satisfaction and Interest). The results were presented in Table 4.

Table 5: Descriptive statistics of the four clusters
of Extrinsic motivation of two groups of students

Sub-clusters	Controlled Group (1)			Experimental Group (2)		
	N	Mean	SD	N	Mean	SD
External regulation	30	2.80	.62	30	3.68	.38
Introjected regulation	30	2.55	.38	30	3.42	.50
Identified regulation	30	3.86	.41	30	3.93	.50
Integrated regulation	30	3.83	.55	30	3.89	.49

Table 6: Descriptive statistics of the three clusters
of Intrinsic motivation of two groups of students

Sub-clusters	Controlled Group (1)			Experimental Group (2)		
	N	Mean	SD	N	Mean	SD
Enjoyment regulation	30	3.68	.41	30	3.73	.53
Satisfaction regulation	30	3.57	.50	30	3.66	.51
Interest regulation	30	3.39	.46	30	3.50	.48

According to Table 5 and 6, the mean scores of seven sub-clusters for Extrinsic and Intrinsic motivation in learning Grammar English in both groups were ranging from 2.55 to 3.93 in the 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). It indicated that the participants tended to agree with seven sub-clusters for Extrinsic and Intrinsic motivation in learning Grammar English.

d. Comparisons among the sub-clusters of Extrinsic and Intrinsic motivation in the controlled group

As described in Table 5, Identified regulation took the highest mean score (M = 3.86, SD = .41), followed by Integrated regulation (M = 3.83, SD = .55), and Introjected regulation has the lowest mean score (M = 2.55, SD = .38). A Paired-Samples T Test was run to test whether the level of participants' identified regulation (M = 3.86, SD = .41) was higher than the level of participants' integrated regulation (M = 3.83, SD = .55). The result showed that there was no difference in the level of participants' identified regulation and participants' integrated regulation (t = .34 , df = 29 , p = .732). Therefore, the level of participants' identified regulation and the level of participants' integrated regulation were the same in learning Grammar English.

From table 6, Enjoyment is the sub-cluster with the highest mean score (M = 3.68, SD = .41) in this group while the sub-cluster has the lowest mean score is Interest (M =

3.39). A Paired-Samples T Test was run to test whether the level of participants' enjoyment regulation (M = 3.68, SD = .41) was higher than the level of participants' interest regulation (M = 3.39, SD = .46). The result revealed that there was a statistically significant difference between in the level of participants' enjoyment regulation and participants' interest regulation (t = 3.1 , df = 29 , p = .004). Therefore, the level of participants' enjoyment regulation was higher than participants' interest regulation in learning Grammar English.

e. Comparisons among the sub-clusters of Extrinsic and Intrinsic motivation in the experimental group

A Paired-Samples T Test was run to test whether the level of participants' extrinsic motivation (M = 3.72, SD = .30) was higher than the level of participants' intrinsic motivation (M = 3.64, SD = .47). The result showed that there was no difference in the level of participants' extrinsic motivation and participants' intrinsic regulation (t = 1.14, df = 29, p = .263). Therefore, it can be concluded that the students in the experimental group hold the same levels among the sub-clusters of extrinsic motivation and intrinsic motivation in learning English grammar.

As observed from Table 5, the mean score of the participants' extrinsic motivation was 3.72. The computed mean score was much higher than the average mean score (M = 3.0). The results indicated that the participants' extrinsic motivation was considerately high. Moreover, the result from the analysis of One-Sample T test presented that the sample mean (M = 3.72, SD = .30) was significantly different from the value 4.0 (t = -4.8, df = 29, p = .000). As a result, it can be concluded that the participants' extrinsic motivation is at high level when they leaning Grammar English.

The Table 6 above gave detailed information about the mean scores of four sub-clusters of Extrinsic in the experimental group. Particularly, the two sub-clusters Identified regulation (M = 3.93, SD = .50) and Integrated regulation (M = 3.89, SD = .49) were in the first and the second ranks in the highest mean scores respectively. A Paired-Samples T Test was run to test whether the level of participants' identified regulation (M = 3.93, SD = .50) was higher than the level of participants' integrated regulation (M = 3.89, SD = .49). The result showed that there was no difference in the level of participants' identified regulation and participants' integrated regulation (t = .35, df = 29, p = .723). Consequently, the level of participants' identified regulation and the level of participants' integrated regulation were the same.

It can be seen from the Table 5, the mean score of the participants' intrinsic motivation was 3.64. A One-sample T test was run to check whether there was a difference between the sample mean 3.64 and the accepted score of the high level 4.0. The results supported that the participants' intrinsic motivation was significantly different from the value 4.0 (t = -4.1, df = 29, p = .000). For this reason, it can be concluded that the participants' intrinsic motivation is at high level in the experimental group.
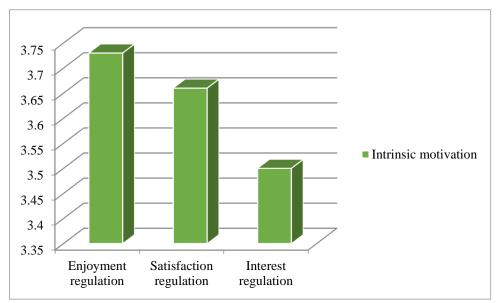
Figure 2: The distinction between the mean scores of sub-clusters in Intrinsic motivation

It can be seen from the figure that the participants have much higher level of Enjoyment regulation in general than any other types of Intrinsic motivation (M = 3.73). It is apparent from the figure supplied that Satisfaction regulation gained the second rank in the mean score (M = 3.66) while Interest regulation has the lowest mean score (M = 3.50) in this group.

Additionally, the means of Extrinsic Motivation and Intrinsic Motivation for both males and females respondents in the experimental group are M = 3.67, M = 3.81 and M = 3.68, M = 3.56, respectively. There is no difference between the two mean scores M = 3.67, M = 3.81 (t = -1.23, df = 28, p = .228) and the two mean scores M = 3.68, M = 3.56 (t = .67, df = 28, p = .505). Both males and females hold the same level of Extrinsic and Intrinsic Motivation in learning. Hence, it can be concluded that the respondents of different gender do not differ in their motivation in learning English grammar.

In summary, the questionnaire has been analyzed and clarified. A significant number of the students in the experimental group had increased the level of their motivation with the effects of Infographic-based learning instructions in their learning English grammar. We can conclude that this instrument supports the idea about the effectiveness of Infographic-based learning instructions through the students' motivation.

4.3 Discussion

With respect to the two research questions aiming to investigate how the Infographics instruction influences learners' motivation, findings from the questionnaire revealed that the participants' motivation in learning grammar English is significantly increased after the research. This implies that Infographics instruction used in the experimental group significantly enhanced students' motivation in learning grammar English.

This study confirm the results of Manowong (2017) who explored EFL learners' English reading and learning experiences while using online tools in a face-to-face EFL classroom. The findings revealed that reading infographics could be an alternative reading activity to assist students to comprehend English texts more easily because they integrate words and graphics to present complex information quickly and clearly. At the same time, an infographic made it easier to understand than words alone and was considered a supportive tool that increases student motivation to read.

This result was consistent with a study done by Huseyin B., & Mobina B. (2019) who conducted a study in regard to the usage of Infographics in a flipped classroom learning environment called "Flipped Classroom Instructional Infographics". The findings of the study indicate that students' motivations in the experimental group compared to the controlled group are more triggered by the engaging and comprehensive nature of flipped classroom instructional infographics, meaning that they could absorb the concepts easier, memorize the information faster, and become more confident in the educational process.

Based on the second question, for the comparison in terms of two types of motivation and their determinants of both groups, there was a statistically significant difference between in the level of participants' extrinsic and participants' intrinsic. The analyzed data show that extrinsic motivation is more popular than intrinsic motivation in learning grammar English from students' perspectives in the experimental group. Based on the students' answers, the findings of the current study may be interpreted as follows, in which external motivation outweighs intrinsic motivation. Firstly, in the present study, students can participate through the receiving of teaching rewards in the supporting learning environment. The teacher usually tries his best in the English grammar lessons to smooth his students as much as possible. Many students try to finalize their challenging assignments with infographics technique over the course of the instructional process. Secondly, virtually students anticipate good education and other talents to be supported. The teacher also highlights the relevance of English in the contemporary world for students to know English and spiritual development.

5. Conclusion

The current research was carried out to investigate the impact of Infographics-based learning instruction on EFL learners' motivation in the MeKong Delta of Vietnam. The results of current study suggest that the application of Infographics-based learning has a strong influence on EFL learners' motivation. In other words, the positive impacts of the use Infographics-based learning instruction enhancing the students' motivation in learning grammar English and improving the quality of their performance in grammar were observed. This result indicates a preference for Infographic-based learning to the level of motivation acquired from the questionnaire in grammar learning English.

6. Recommendations

6.1 Pedagogical implications
The following pedagogical implications were provided, based on the results of the present study, for English foreign language educations.

The findings recommended that the implementation of using Infographics in grammar course could enhance students' grammar retention and their motivation toward grammar English, and the students were interested in applying this technique for grammar classes. It is therefore advisable for EFL teachers to use Infographics materials to successfully present themselves and apply them to teaching practice. In addition, teachers should offer precise instructions and explanations on how to successfully utilize Infographics to eliminate taking time to find out how to use Infographics properly.

6.2 Limitations and suggestions for further research
Infographics' benefits in grammatical learning English has been proven in the process of the study and to some extent has been achieved with the aims of the research; nevertheless, there are certain limitations to the findings of the current research. Therefore, reasonable suggestions may be generated from the limitations for further study.

The first limitation of the study refers to the time for aplying the implementation of Infographics in the current study was restricted in six weeks, which could not cause greatly positive impacts on learners' grammar motivation. In the future, the implementation of Infographics should be conducted in a long period of time to strengthen the results of the current study and provide the deeper understanding on the importance of Infographics-based learning in improving students' motivation in an EFL setting.

In controlled and experimental groups, the second limitation concerns the size of the population; the results of this investigation could rarely be generalized. Therefore, a greater number of participants should conduct for further research to ensure that the results are probably generalized.

Finally, the researcher also limits the infographic that discuseed in this research because there are many types of Infographics. In the course the Infographics discussed in this research are static infographics. Moreover, the study was limited when focused on investigating the impact of Infographics-based learning instruction on students' motivation thus, educational researchers can explore the correlation between Infographics with the development other language skills such as reading, speaking and writing through other types of Infographics (animated infographic and interactive infographic) would be helpful and amazing to conduct in further research.

Conflict of Interest Statement
The authors declare no conflicts of interests.

About the Authors

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