Uso del *WhatsApp* para mejorar la gramática y vocabulario en estudiantes universitarios de inglés como lenguaje extranjero

Use of WhatsApp to enhance grammar and vocabulary in university english foreign learners

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RESUMEN

El propósito de este estudio es examinar los resultados de la instrucción móvil mediante la aplicación WhatsApp en 30 estudiantes (grupo experimental). Los participantes fueron estudiantes de EFL (estudiantes extranjeros de inglés) de la Universidad Técnica de Babahoyo ubicada en Los Ríos - Ecuador. Este estudio de investigación aplicativa utilizó datos cuantitativos obtenidos de las pruebas previas y posteriores. La evidencia mostró que los estudiantes mejoraron un 37,12% en su vocabulario y un 37,55% en su competencia gramatical. Esto fue corroborado por el valor de p 000 <0,05. Además, el tamaño del efecto según Cohen fue grande con 2.5 en la comparación de las post-pruebas entre grupo de control y experimental. Además, una comparación entre las pruebas previas en grupo de control y experimental aseguró que las muestras tenían un nivel de competencia en inglés

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similar. Finalmente, las observaciones de la maestra indicaron que las actitudes de los estudiantes hacia la instrucción móvil de WhatsApp y el enfoque invertido fueron positivas.
Palabras clave: *WhatsApp, vocabulario, competencia gramatical, enfoque invertido, percepción estudiantil*

ABSTRACT

The purpose of this study is to examine the results of mobile instruction by WhatsApp application in 30 students (experimental group). Participants were EFL (English Foreign Learners) students at the University Technical of Babahoyo located in Los Ríos - Ecuador. This action research study used quantitative data gotten from pre-tests and post-tests. Evidence showed that students improved 37.12% on their vocabulary and 37.55% on their grammar competence. It was corroborated by the p-value 000 < 0,05. Moreover, the effect size according to Cohen´s was large with 2.5 in the post-tests´ comparison between the control and experimental groups. Also, a comparison between pre-tests in the control and experimental groups assured that samples had similar English level proficiency. Finally, the teacher´s observations stated that students´ attitudes toward WhatsApp mobile instruction and flipped approach were positive.
Keywords: *WhatsApp, vocabulary, grammar competence, flipped approach, students´ perceptions*

INTRODUCTION

Certainly, technology has been playing an important role in the Education, mostly in teaching-learning the English language, as Said (2015) states, “English language learning is one of the leading sciences that appeared this change. That is due to the universality of English language” (p. 115). According to Said (2015), the language teaching history has had four phases: face to face instruction, distance learning, blended learning, and finally mobile learning in which this study is focused on, being WhatsApp a mobile tool. WhatsApp is a tool that permits sending text messages, pictures, audios, and files as well as making videoconferences; it is free, friendly-use, and cheap internet service package is enough to have access. It has been proved either by different studies and our own experience that social media tools have monopolized youth´s attention, being a distractor

for teaching-learning process, as Hamad (2017) stated "whatever we do, we cannot stop them from using technology, mobile phones, iPad, etc." (p. 74), so teachers should use these tools in favor of teaching to create motivation in students.

The purpose of the study is to analyze the effect of WhatsApp implementation to improve vocabulary and syntax areas; since very few studies have been conducted for the Ecuadorian context, especially regarding syntax, most of the investigations about WhatsApp and education have been toward vocabulary mostly.

Xiaohong Wang, Lei Shen, and Xiao Lu (2016) stated that "writing is one of the most challenging skills for many EFL (English Foreign Learners) learners to master. It is also considered to be the most difficult to teach" (p. 1) since writing is a productive and complex skill that takes a lot of time and practice. Mostly, curriculum designs do not allow to cover all writing features or do not permit enough practice and feedback as should be, that is why it is mandatory to analyze and try technological tools that help students to keep learning outside the classroom. Also, writing tends to provoke boredom and anxiety in students, so WhatsApp is a suitable tool to make writing meaningful, therefore, more interesting for them. Finally, in my experience, I have noticed that the major problems students cope with when they write are vocabulary meaning content and grammar competence (syntax), thus this study will focus on these variables only.

Fansury, Januarty, and Ali Wira Rahman (2020) investigated teachers´ and students' perspectives about the digital content which now is mandatory because of the COVID-19 pandemic. Results demonstrated that digital content raises students´ motivation in the information provided, mostly for the millennial generation.

Mardiah (2020) also contributed with a qualitative analysis about how E-learning is the only and best option to continue with education in the actual pandemic, but it does not eliminate the gap between students with no access to technological resources such as internet connection and devices required to keep going with their learning.

Being online education a reality nowadays, the term flipped classroom has become very popular since it accomplishes with the little synchronous class time teachers have to get learning outcomes. Singay (2020) made research with 40 Bhutanese students about their perceptions regarding the flipped approach for learning grammar. Results in students´ grammar knowledge and attitudes toward flipped learning were positive.

Finally, Andujar, Salaberri-Ramiro, and Cruz Martínez (2020) also proved on their study the good perception students have regarding flipped learning but with the use of mobile devices, highlighting that the content design plays an important role on provoking good learning experience.

LITERATURE REVIEW

Phil (2016) carried out a study of how social networking can enhance reading and writing skills on college students through WhatsApp, raising motivation, and reducing anxiety. The study was completely qualitative in which a questionnaire took place for two groups of students divided into males and females. This questionnaire was aimed to know what was the most common social network. The WhatsApp group had rules such as time limits or avoiding the use of abbreviations. Some tasks were to send written reports about what was done in each class, congratulate students´ performance, and share pictures to talk about them in the group, fostering meaningful communication and students´ confidence. In most of the tasks, fluency and meaning were the aims rather than accuracy. The results of this research were that students felt more motivated about writing through WhatsApp, sharing about their culture reduced anxiety and raised engagement, respect for the students´ culture and traditions, strengthen their reading skills, and finally, it improved their grammar and vocabulary.

Ta'amneh (2017) also made a study about the effect that WhatsApp has on Language learning among university students. The study consisted of two groups, the controlled (21 students) and the experimental (19 students). The instruments were pre-posttest and SPSS (Statistical Package for the Social Sciences) program to analyze treatment improvement, test/retest technique for the reliability, consulting to ten experts for the validity. The result was that the experimental group had a better performing than the controlled group, which means that integrating technological tools turned out to be greatly beneficial for learning.

Salem (2013) made a research about the impact of technology on English linguistics in Kuwait. The sample was formed by two aged groups, intermediate and secondary school, 211 randomly selected participants in total with the same socio-economical background. The study is aimed to evaluate the adverse effect that shortcuts have on English language

use, concluding that using abbreviations is detrimental for language use since it makes students forget the grammatical forms.

Hamad (2017) analyzed the impact of using WhatsApp but with a sharing experience focus. The tools for this study were students´ questionnaires, instructor observation, and SPSS (Statistical Package for the Social Sciences). The sample was 36 female and college students. The results according to the students´ perceptions showed that the significance was higher on the whole items except in speaking skills, this means students did not feel that WhatsApp was helpful enough to overcome fear and motivation to learn regarding speaking.

Jafari and Chalak (2016) studied the role of WhatsApp in teaching vocabulary to Iranian EFL (English Foreign Learners) students in a high school. The sample was 30 males and 30 females, the instruments were pre-posttests. The results showed that in the pre-test scores between the control and experimental group was not a significant difference whereas in the post-test between the same groups were very significant, concluding that the treatment had a great impact to enhance vocabulary through WhatsApp.

Ali (2020) made a study about applying the Jigsaw IV technique to work on vocabulary learning in a cooperative way using WhatsApp. It was carried out with 40 Saudi University students divided into two groups, the control and experimental one. The experimental group studied English vocabulary through WhatsApp three days a week for six weeks. The control group learned English vocabulary in the traditional text-based in the classroom. Findings showed that the treatment had a great effect on vocabulary students´ improvement (control mean 12 and experimental 17). Additional, through observation and interviews it proved that the process while treatment turned out to be funnier than the conventional method.

Namaziandost, Shafiee, and Suryadi (2020) developed a study about using WhatsApp to teach vocabulary to Iranian pre-intermediate EFL learners. These students from a private university were split into two equal groups in a random way. Results stated that the experimental group in which the instruction was given through WhatsApp had better results in the vocabulary post-test than the control group.

Escobar and Gómez (2020) also proved that using WhatsApp for learning written and oral English skills is effective since the experimental group (36 students) had 3,5 points more

than the media of the control group (34 students) after the treatment. The sample was from Peru studying high school.

Farajnezhad, Zahra, and Tabatabaei (2020) analyzed how WhatsApp was useful to teach collocation common verbs. Two groups of 30 intermediate students were taken as the sample. The teacher made a pre-test before the intervention, after 40 words were taught in both groups applying the same procedures regarding the number of sessions, number of verbs and the learning outcomes. On the other hand, WhatsApp was only applied to the experimental group. After the post-test, the results showed greater results on the experimental group than in the control one.

METHODOLOGY

Research questions

1. Does WhatsApp have a significant impact in improving students´ vocabulary knowledge?

2. Does WhatsApp have a significant impact in improving students´ syntax knowledge?

Design and methodology

In this section, the researchers present the instruments and processes that conducted the quantitative study, describing the variables, sample, instrument, procedures, and statistical analysis.

Variables of the study

This study has the following variables:

1. Independent variable: Mobile learning method through WhatsApp.
2. Dependent variables: students´ achievement in vocabulary and linguistic competence (syntax).

Sample

Two groups from the same level were chosen randomly, the control one which did not receive the WhatsApp instruction and the experimental group that got the mobile WhatsApp learning method, there were 30 students in each group, having a total of 60 participants, male and female are mixed in both groups. The students are currently studying at the University Technical of Babahoyo in CENID. According to Ecuadorian learning standards (2012), college students should have a B1 English proficiency level when they

just enter to the university, but the reality is that they barely have an A1 level, despite this, both groups are homogenous since the majority has the same proficiency level in both groups. Modules from the university last 2 months with 6 hours per week (online and autonomous work), but the treatment was only one month, making 3 posting sessions in the WhatsApp group per week.

Table 1

Demographic information

Gender		Age		Nationality		Like technology		Have WhatsApp		WhatsApp usage	
Male	20%	19-24	57%	Ecuador	100%	Yes	100%	Yes	100%	Always	73%
Female	80%	25-30	43%	Other country	0%	No	0%	No	0%	Sometimes	27%

As illustrated in table 1, most of the sample are female and are between 19 and 24 years old, all participants are Ecuadorian, like technology, and have WhatsApp. Finally, 73% of participants always use the application.

INSTRUMENTS

• Demographic questionnaire: the researcher made it, it contains nominal data such as gender, yes-no questions, and open-ended questions; ordinal data like the frequency in which they use WhatsApp: always, sometimes, rarely, never.

• Pretest and posttest. Vocabulary and grammar multiple-choice test is the same for the pre-test and post-test, but the items will be presented in a different order as well as the options inside each item. This test was built in based of KET (Key English Test) questions, KET is a Cambridge exam to measure basic English (A2). The test has 30 items, the first fifteen questions are about grammar and language use, and the other 15 items are about vocabulary.

• SPSS statistic program (Statistical Package for the Social Sciences).

The validity of the instrument

The validity of the pre-test and post-test gives it the Cambridge organization, moreover, five other colleague teachers revised the test.

Procedure

Gathering data

Sixty students filled out the pre-test and post-test. After, the information was coded and registered in an excel spreadsheet, and finally, the spreadsheet was imported into the SPSS application.

Analyzing data

We made a descriptive statistic table of the scores gotten in pre-test and post-test for each group with its mean, standard deviation, minimum-maximum, so we could compare the scores´ tendency before and after the treatment between the control and experimental group. Additionally, we calculated related sample t-test in SPSS for comparing pre-test and post-test means in the experimental group. Also, we calculated related sample t-test between the control group pre-test and experimental group pre-test; and the same for the post-tests. In these same charts, the P-value that represents the statistical significance in which the p-value should be ≤ 0,05 to be a significant sample, namely, it was not rare by chance; was also important to conclude the study.

At the end we calculated the effect size between the control and experimental groups for the pre-test and post-test means, by applying the following formula:

Effect size= (mean of the experimental group) – (mean of the control group) / Pooled deviation standard

After, we made the interpretation according to Cohen´s edited intervals by Knezek and Christensen, if the effect size is: no effect, small, intermediate, or large.

RESULTS

The results of the study are presented according to the research questions. The first research question*: Does WhatsApp have a significant impact in improving students´ vocabulary knowledge?* it is shown in Tables 2 and 3.

Table 2

T-test paired sample statistics of the experimental group

Parameters	Mean	N	Standard deviation	Mean standard error
Vocabulary score-pretest	6.100	30	2.0401	.3725
Vocabulary score-posttest	11.667	30	2.0734	.3785

The data given in Table 2 shows the improvement after the intervention in the vocabulary scores (6.1-11.67); raising 5.57 points.

Moreover, the T-test paired sample in Table 3 shows the mean difference (-5.5667) within the 95% confidence interval between -5.9790 and -5.1543. This demonstrates that the

means are different. To corroborate that the means are statistically different the T value (-27.60) is also shown in the table. The T value is the result of the division between the mean difference and the standard error mean. Furthermore, the P-value is .000 < 0.05 which means that the difference between the means is significant in relation to before and after the intervention, it was not rare by chance.

Table 3

T-test paired sample of the experimental group

Parameters	Paired differences					t	gl	Sig. (bilateral)
	Mean	Standard deviation	Mean standard error	95% confidence interval of the difference Lower	Superior			
Vocabulary score -pretest Vocabulary score -postest	-5.5667	1.1043	.2016	-5.9790	-5.1543	-27.609	29	.000

The second research question: *Does WhatsApp have a significant impact in improving students´ syntax knowledge?* It is shown in Tables 4 and 5.

Table 4

T-test paired sample statistics of the experimental group

Parameters	Mean	N	Standard deviation	Mean standard error
Grammar score-pretest	6.667	30	1.4464	.2641
Grammar score-posttest	12.300	30	1.9678	.3593

The data given in Table 4 shows the improvement after the intervention in the grammar scores (6.67-12.30); raising 5.63 points.

Table 5

T-test paired sample of the experimental group

Parameters	Paired differences					t	gl	Sig. (bilateral)
	Mean	Standard deviation	Mean standard error	95% confidence interval of the difference Lower	Superior			
Grammar score-pretest Grammar score-posttest	-5.6333	1.3767	.2514	-6.1474	-5.1193	-22.412	29	.000

Additionally, the T-test paired sample in Table 5 shows the mean difference (-5.6333) within the 95% confidence interval between -6.1474 and -5.1193. This demonstrates that the means are different. To corroborate that the means are statistically different the T value (-22.41) is also shown in the table. The T value is the result of the division between the mean difference and the standard error mean. Finally, the P-value is .000 < 0.05 which

means that the difference between the means is significant in relation to before and after the intervention, it was not rare by chance.

In general, the total scores of the pre-test and post-test in the experimental group shows the great enhancing after the innovation (12.77-23.97), getting 11 points more as it is shown in Tables 6 and 7.

Table 6

T-test paired sample statistics of the experimental group

Parameters	Mean	N	Standard deviation	Mean standard error
Total score-pretest	12.767	30	2.9674	.5418
Total score-posttest	23.967	30	3.3783	.6168

Table 7

T-test paired sample of the experimental group

Parameters	Paired differences					t	gl	Sig. (bilateral)
	Mean	Standard deviation	Mean standard	95% confidence interval of Lower	Superior			
Total score-pretest / Total score-posttest	-11.2000	1.8080	.3301	-11.8751	-10.5249	-33.929	29	.000

Also, the T-test paired sample in Table 7 shows the mean difference (-11.20) within the 95% confidence interval between -11.8751 and -10.5249. This demonstrates that the means are different. To corroborate that the means are statistically different the T value (-33.93) is also shown in the table. The T value is the result of the division between the mean difference and the standard error mean. Lastly, the P-value is .000 < 0.05 which means that the difference between the means is significant in relation to before and after the intervention, it was not rare by chance.

To corroborate the impact of the innovation and the effect size, we compared through a T-test paired sample the pre-tests and post-tests of each group in the study. As it is shown in Table 8, means are not substantially different (12.20-12.77) which means both groups were similar in English knowledge before the intervention.

Table 8

T-test paired sample statistics of the pre-tests

Parameters	Mean	N	Standard deviation	Mean standard error
Total score-pretest control group	12.200	30	3.8632	.7053
Total score-pretest experimental group	12.767	30	2.9674	.5418

Table 9

T-test paired sample of the pre-tests

Parameters	Paired differences					t	gl	Sig. (bilateral)
	Mean	Standard deviation	Mean standard	95% confidence Lower	Superior			
Total score-pretest control group Total score-pretest experimental group	-.5667	1.8880	.3447	-1.2716	.1383	-1.644	29	.111

Also, the T-test paired sample in Table 9 shows the mean difference (-0.5667) within the 95% confidence interval between -1.2716 and -0.1383. This demonstrates that the means are not different, to corroborate this the T value (-1.644) is also shown in the table. Last, the P-value is .111 > 0.05 which means that the difference between the means is not significant. The effect size is 0.164509, being a small one.

To verify the incidence of the intervention post-tests were also analyzed. As it is shown in Table 10 the means are different (14.73-23.97) for 9 points, showing a big improvement.

Table 10

T-test paired sample statistics of the post-tests

Parameters	Mean	N	Standard deviation	Mean standard error
Total score-posttest control group	14.733	30	3.9298	.7175
Total score-posttest experimental group	23.967	30	3.3783	.6168

Table 11

T-test paired sample of the post-tests

Parameters	Paired differences					t	gl	Sig. (bilateral)
	Mean	Standard deviation	Mean standard	95% confidence Lower	Superior			
Total score-posttest control group Total score-posttest experimental group	-9.2333	1.8880	.3447	-9.9383	-8.5284	-26.787	29	.000

The T-test paired sample in Table 11 shows the mean difference (-9.2333) within the 95% confidence interval between -9.9383 and -8.5284. This demonstrates that the means are positively different. To corroborate that the means are statistically different the T value (-26.787) is also shown in the table. To conclude, the P-value is .000 < 0.05 which means that the difference between the means is significant in relation to before and after the intervention, it was not rare by chance. The effect size is 2.519708, which means the intervention had a big impact and it can be replicated to other studies.

DISCUSSION

In general, this study had positive results since the total means of the post-tests in the control and experimental groups showed a very notable improvement of 30.78%. As Ta'amneh (2017) stated and proved in his study that including technological tools can have positive results in students 'learning. Moreover, students in the experimental group demonstrated a better attitude toward writing having more motivation on participating in the activities than the control group. As Phil (2016) and Hamad (2017) set that WhatsApp promoted a good perception in students. And even according to Phil (2016) this motivation was favorable for students to get better on their vocabulary and grammar knowledge. Finally, as Andujar, Salaberri-Ramiro, and Cruz Martínez (2020) also revealed on their project, students performed the flipped learning with a good attitude being this approach the only one to face the present education situation because of the pandemic.

Regarding the first question: Does WhatsApp have a significant impact in improving students´ vocabulary knowledge? Findings showed that it was a remarkable enhancing in the experimental group after the intervention with 37.12% of growth. As Jafari and Chalak (2016); Ali (2020); Namaziandost, Shafiee, and Suryadi (2020) verified on their studies

applied to EFL students, to include WhatsApp as a mobile instruction had a noteworthy outcome to improve vocabulary.

Regarding the second question: Does WhatsApp have a significant impact in improving students´ syntax knowledge? Results represented a significant improvement in students´ grammar competence after the innovation, obtaining 37.55% of increment. To make it possible we applied what Salem (2013) stated not to use abbreviations on the students´ performances since it is detrimental to learn correct grammar structures. Finally, as Singay (2020) proved, this study verified that conducting a flipped approach through WhatsApp to learn grammar was not only possible but suitable to raise students´ learning probabilities during the pandemic.

CONCLUSIONS

The aim of this study was to prove how WhatsApp mobile instruction could allow students to improve their vocabulary and grammar competence skills. Based on the evidence, mobile WhatsApp instruction was meaningful to improve vocabulary and grammar competence. This study concludes that students had a similar performing upgrade in vocabulary and grammar after the intervention. This study also infers that the flipped approach with the appropriate digital content design was relevant to support learning. Finally, in the process of the innovation students´ attitudes indicated motivation and enthusiastic participation by using WhatsApp as an English learning tool.

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