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FROM THE EDITOR

by **Jarosław Krajka**

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"The first wave of COVID-19 over, the first wave of massive online/blended/distance education over as well. While we are waiting for the second wave of both, reflection on how to transform language teaching into the technology-assisted mode is needed to better serve teachers and students in those hard times." Starting the editorial like this in the July issue of *Teaching English with Technology*, it was hard to imagine that already the next editorial, as quickly as three months later, will be written in the times of the second wave of the pandemic, even more serious than the first one, with new restrictions introduced by countries all over the world in a frantic attempt to thwart the disease.

To be more effective in language teaching in those hard times, instructors need, surely, to be introduced to and trained in the use of new tools, software and online services. To meet that need, the October issue focuses on virtual worlds and virtual reality in **Minoo Alemi** and **Shiva Khatoony**'s paper on Virtual Reality Pronunciation Training for young learners. Framing pronunciation practice in a virtual reality game run by a humanoid robot is an interesting example of how advanced technology can be in a language classroom.

Another cutting-edge technology application, a *Classcraft* gamification portal, is proposed by **Irene Rivera-Trigueros** and **María del Mar Sánchez-Pérez** (Spain) to foster both extrinsic and intrinsic motivation of secondary school students. However, as supreme technology does not mean supreme pedagogy, the authors show how gamification should be designed so as to make the learning process a demanding yet enjoyable experience.

Focusing more on methodology than technology, **Shahriar Jalili, Hamidreza Khalaji** and **Hossein Ahmadi** (Iran) prove that sophisticated communicative activities can be designed in a relatively simple computer-mediated environment. In the study, a simple *Telegram* tool was used to make the students engaged in various peer and group activities including pre-communicative sentence arrangement, communicative tasks, pair, and group discussion, role-plays and storytelling.

Staying at the lesson design level, **Patrisius Istiarto Djiwandono** (Indonesia) shows the application of the SAMR model (Substitution, Augmentation, Modification and Redefinition) in a vocabulary classroom. After the first wave of COVID-teaching it has become obvious that it is not possible to teach regular coursebook lessons and activities through a camera and microphone. Hence, ample reflection is needed on how to best adapt, modify and restructure coursebook activities for use in the online mode.

Undeniably, online environments in which learners interact shape their understanding of the world, influence the rate and success of their language acquisition, as well as have an effect on their production. Quite interestingly, **Diana Al Jahromi** (Bahrain) proves how the utilization of social media has positively impacted interlocutors' lexical variation, writing style, reading and communication skills.

Finally, the October issue contains two practical materials – a MOOC review of *Writing in English at University* Massive Online Course (by **Nashid Nigar,** Australia) and a lesson plan related to teacher education during practicum (by **María Amor Barros-del Río, Beatriz Mediavilla-Martínez, Carlos López Nozal** and **Fernando Catarino**, Spain and Portugal). Both of these classroom resources are readily usable by those language instructors who seek immediate help in redefining their language classes in those difficult moments.

Finally, I would like to take that opportunity and thank **Marcin Mizak**, Ph.D., who has made great efforts to facilitate Journal production over the last year as Assistant to Editor. Without Marcin's patience and devotion, all the issues last year and this year would not have had their current shape. We are grateful for your help and wish you all the best in your work!

For all of our readers, we wish good reading and good health in those hard times!

CONQUERING THE IRON THRONE:
USING CLASSCRAFT TO FOSTER STUDENTS' MOTIVATION
IN THE EFL CLASSROOM

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Abstract

This study aims to analyse motivation in the English as a Foreign Language (EFL) secondary classroom through gamification. To this end, a gamification proposal based on *Game of Thrones* TV series was designed. *Classcraft*, an online role-playing platform, was used to create a gaming scenario in the classroom. The proposal was implemented in two groups of 4th year of secondary school, formed by 43 students aged between 15 and 16 years old. Results showed that gamification had a positive impact on fostering students' motivation. Particularly, a notable increase in students' participation was observed since their extrinsic and intrinsic motivation – which increased 0.69 and 0.58 points accordingly – had improved after the implementation of the gamification proposal. Consequently, *Classcraft* proved to be a tool with a great potential to involve and engage students in the EFL classroom.

Keywords: *Classcraft*; English as a Foreign Language; gamification; motivation; secondary education

1. Introduction

Nowadays, in Spain, there is an increasing concern about school failure and dropouts. According to the last official report, the dropout rate in Spain is 18.3%, which means that this country has the second highest rate within the European Union (Ministerio de Educación y Formación Profesional, 2018). This situation has led to an increasing interest concerning the factors involved in school dropouts. The lack of motivation has been identified as one of the reasons behind this matter of concern (Castejón-Costa & Pérez-Sánchez, 1998; Grau-Vidal, Pina-Calvo, & Sancho-Álvarez, 2011; Lozano-Díaz, 2002; Martínez-Otero, 2009; Suárez et al.,

2011). Undoubtedly, this lack of motivation poses a great challenge for teachers. Nowadays, new technologies are a great resource that should not be ignored during the teaching-learning process given that they offer a wide range of resources for dynamizing the classroom and fostering students' motivation (Gómez-Gallardo & Macedo-Buleje, 2010; Martín-Laborda, 2005). However, technology may turn out to be a double-edged sword as its inappropriate use may lead to distractions, thus having a negative impact on academic performance (Gómez-Gallardo & Macedo-Buleje, 2010).

The main aim of this research is to analyse the motivation of secondary education English as a Second Language (EFL) students through gamification. Our initial hypothesis is that students' motivation will be fostered by implementing a gamification proposal. Firstly, the theoretical framework is presented. Secondly, the materials and methods are explained including the description of participants, instrument, and data collection procedure. Results are then analysed and discussed. Finally, conclusions are drawn.

2. Literature review

In general terms, motivation is what makes a certain behaviour arouse, be directed, and maintained over time (Harmer, 2001; Pintrich & Schunk, 2006; Woolfolk, 2006). Pekrun (1992) distinguishes between intrinsic motivation – also known as integrative motivation – which arises from the individual and it is under its own control, and extrinsic motivation – also known as instrumental motivation – which is driven by external factors. Consequently, to foster intrinsic motivation in the classroom, students' curiosity, autonomy, and decision-making capacity should be stimulated (Madrid-Fernández, 1999). Conversely, intrinsic motivation will increase through good grades and reports and teachers' and parents' acknowledgment, among other factors (García-Bacete & Doménech-Betoret, 2014). It is worth mentioning that intrinsic motivation prevails during the first school years, however, as students grow and mature, extrinsic motivation gains relevance (Madrid-Fernández, 1999).

According to Pintrich and De Groot (1990), there are three motivational components related to students' self-regulated learning: an expectancy component, a value component, and an affective component. The expectancy component is linked to students' belief to perform a given task, and, therefore, to their perceived competence, self-efficacy, attributional style, and control beliefs. The value component involves students' goals and their beliefs concerning the relevance and interest of a given task. This component includes students' intrinsic goals; consequently, intrinsically-motivated students will be willing to face challenges whereas those students who tend to be extrinsically motivated are more likely to avoid them as they fear to

fail (García-Bacete & Doménech-Betoret, 2014). Finally, the affective component is related to students' emotional reactions to a given task. Emotions, especially anxiety, affect motivation and, therefore, academic performance (Pekrun, 1992).

In addition, Burstall (1975) remarks the importance of the learner's socio-economic status concerning students' achievement, which still stands as a reality (Fernández-Sanjurjo, Arias-Blanco, & Fernández-Costales, 2018; Morales, 2017; Rascón-Moreno & Bretones-Callejas, 2018; Huang, Chang, Niu, & Zhi, 2018).

Concerning motivation in EFL classroom, Gardner's socio-educational model (Gardner, 1985, 2001) proposes that motivation to learn a second language (L2) is linked to two variables: attitudes towards the learning situation and integrativeness. Positive attitudes towards learning a second language will increase motivation and, therefore, academic performance. For its part, integrativeness concerns the individual's openness to other cultures. If students are interested in other cultural communities (including their words, pronunciations, grammar, etc.) their motivation to learn the language will be higher. Based on Gardner's model, Madrid-Fernández (1999) indicates that aspects such as the cultural beliefs; the individual differences, which includes language ability and motivation; and the learning context – formal or informal – will affect learning results.

Nowadays, new alternatives are proposed in order to motivate students during the teaching-learning process (González-Reyes, Olivares-Granados, García-Sánchez, & Figueroa-Melchor, 2017). One of these alternatives is gamification, which has a great potential when it comes to fostering students' motivation and, therefore, their academic performance (Buckley & Doyle, 2016; Da Rocha Seixas, Gomez, & De Melo Filjo, 2016; Deterding, 2012; Diaz, Diaz, & Ahumada, 2018; Hursen & Bas, 2019; Kaila, Laakso, Rajala, Makelainen, & Lokkila, 2018; Mekler, Brühlmann, Tuch, & Opwis, 2017; Rivera-Trigueros & Sánchez-Pérez, 2020; Sánchez-Pérez & Rivera-Trigueros, 2019). In addition, González-Reyes et al. (2017), Haris & Sugito, (2015), Papadakis & Kalogiannakis (2018) and Sánchez, Young, & Jouneau-Sion (2017) underline the positive impact of using role-playing platforms such as *Classcraft* on the classroom instruction.

According to Deterding, Khaled, Lennart, & Dixon, "gamification is the use of game design elements in non-game context" (2011, p. 2). On his part, Kapp defines gamification as "a careful and considered applications of game thinking to solving problems and encouraging learning using all the elements of games that are appropriate" (2012, p. 15-16).

When using gamification in the classroom several aspects should be considered in order to achieve success. Firstly, any student must be obliged to play, gamification should be

voluntary. Secondly, the aim of gamification should always be to learn how to solve a problem or a task. Finally, there should be balance between the gamification structure and the student freedom to explore. If gamification is successful, it will increase students' motivation, autonomy, competitiveness, cooperation, and engagement. In addition, meaningful learning will be achieved (Borras-Gené, 2015).

The three main elements of gamification are game dynamics, mechanics, and components. Dynamics are the global aspects of gamification and are related to satisfying players' desires. They include game constraints, emotions, narrative progression, and relationships. Mechanics are the processes used to generate player engagement. It is achieved by using challenges and competitions, by providing interaction opportunities with other players such collaboration or partnership (playing in teams, for example) and including other elements as scoring points, levels, or feedback. Finally, the components are the specific instantiations related to dynamics and mechanics, including achievements, gifts or rewards; conquers and progress; avatars, budgets and virtual objects; combats or challenges; content unlocking; team formation; and levels, scores and ranking tables (Herranz, 2013; Werbach & Hunter, 2015).

3. Methodology

3.1. Participants and the context

Two groups of 4th year secondary students from a Spanish state high school participated in this research, which was carried out during the academic year 2017-2018. The total amount of participants in this study is 43 students. The first group (4ºA) is formed by 28 students – 8 girls and 10 boys. The second group (4ºB) is less numerous as it is formed by 15 students – 9 boys and 6 girls. The average English level of both groups is A2-B1 level, according to the Common European Framework of Reference for Languages (CEFR).

3.2. Design and procedure

The research design is quasi-experimental as there is no control group (Tejedor, 2000). Therefore, two natural groups formed by the students previously described participated in the intervention proposal.

Concerning research methods, two surveys were used in order to assess motivation. One of them asked closed-ended questions – which was answered by all the participants – and the other one consisted of open ended questions. In this case, 23 out of the 43 participants answered it.

The closed-ended survey was used before (pre-test) and after (post-test) the intervention. The survey used was adapted from the work developed by Barrera-Cueva, Curasma-Ramos & Gonzales-Ramos (2014). This survey was used due to its adequacy concerning the research topic, as it assesses intrinsic and extrinsic motivation regarding EFL learning. In addition, the survey was validated by experts and by the Cronbach's Alpha standard. The survey examines two variables: motivation and learning – due to the nature of the research the latter variable was not considered. Concerning the variable focused on motivation, two of its items were not included as they were irrelevant for the present research (*I study English because I want to become the best of the students* and *I attend classes in order not to fail*). In addition, the language of the survey was adapted to facilitate students' comprehension. The data obtained was analysed using descriptive-inferential statistics, identifying one independent variable – the grade obtained in the EFL subject by the students in their last school records.

The open-ended survey was carried out using *Google Forms* once the intervention had finished. This survey included two open-ended questions. The first one asked to describe their experiences and impressions concerning the intervention. The second question asked for any other comments that students would like to add.

3.3. Gamification proposal: *Classcraft*

Classcraft was the platform used in order to implement the gamification proposal. This online platform is available both in a web and app version, so teachers and students can access it from any device with internet access. Classcraft offers a basic option – which is free of charge and was the one used for this research – and a premium upgrade, which costs $120 per year.

Classcraft's aim is to turn the classroom into a role-playing scenario. In this sense, the teacher can foster desired behaviours concerning classroom management. Students play in teams and each of them has a specific role and responsibilities within the team, therefore, solidarity and cooperation are promoted. *Classcraft* allows the teacher to apply a reward/penalty system in order to help the teacher to manage students' behaviour and performance. Students gain points that enable them to acquire powers, to level up and progress in the game. Game duration and features are set by the teacher and students have their own account, which allows them to manage their character, powers, etc. (Sánchez et al., 2017).

3.3.1. Avatars and teams

Each student was provided with an access code to set their own account and create their avatar (Figure 1). The students had to decide if they wanted their avatar to be a Warrior, a Mage or a Healer. Warriors are in charge of protecting the team and they can use their powers to absorb the damage for other players, however, their powers are not very strong and cannot be used very often. Mages supplies Action Points for their teams, and they have the strongest powers, on the contrary, they are weaker and have more risk of falling in battle. Finally, Healers are particularly important in the game as they use their powers to restore Health Points for their teams or themselves, that is the way the team should protect them and help them to survive.
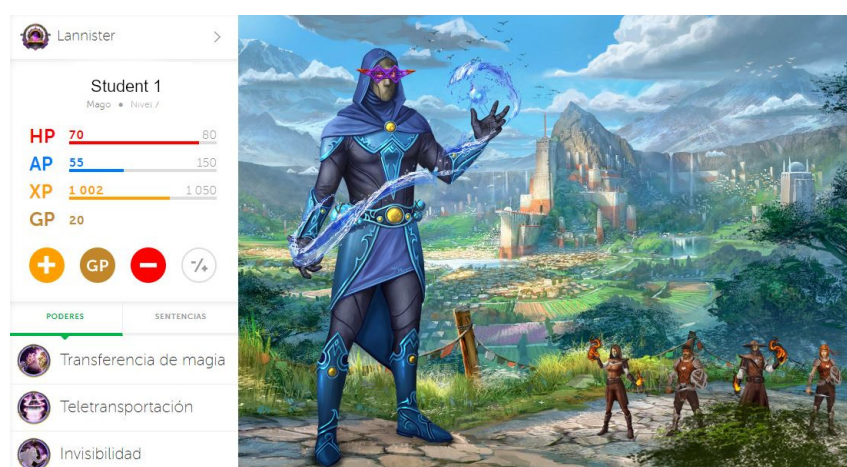
Figure 1. Example of an avatar

The thematic unit developed during the intervention proposal was focused on fantastic stories and legends. Therefore, *Game of Thrones* served as a common thread as it is a well-known and popular TV series. The students were grouped into teams according to the dynasties that fight for the Iron Throne. In this sense, four teams of seven students were formed in 4ºB (Stark, Lannister, Targaryen and Martell) and three teams of five students were formed in 4ºA (Stark, Lannister and Targaryen).

In addition, *Classcraft* allows the teacher – or Gamemaster – to have both a global and individual vision of the game progress. Therefore, the teacher can view the individual progress of a given student, a specific team or the whole classroom (Figure 2).

NOMBRE ▲	APLICAR A	AUSENTE	CLASE	NIVEL	HP		AP		XP		GP
Student 1	🟢 GP 🔴 (%) ❎	☐	Guerrero	5	46	80	150	150	473	500	160
Student 2	🟢 GP 🔴 (%) ❎	☐	Guerrero	5	80	80	150	150	413	500	115
Student 3	🟢 GP 🔴 (%) ❎	☐	Mago	4	60	80	150	150	323	400	125
Student 4	🟢 GP 🔴 (%) ❎	☐	Curandero	7	60	80	105	150	686	700	245
Student 5	🟢 GP 🔴 (%) ❎	☐	Curandero	4	60	80	150	150	333	400	125
Student 6	🟢 GP 🔴 (%) ❎	☐	Guerrero	9	35	80	120	150	873	900	350
Student 7	🟢 GP 🔴 (%) ❎	☐	Mago	3	60	80	150	150	273	300	95
Student 8	🟢 GP 🔴 (%) ❎	☐	Mago	3	60	80	150	150	266	300	95
Student 9	🟢 GP 🔴 (%) ❎	☐	Guerrero	6	36	80	150	150	540	600	200
Student 10	🟢 GP 🔴 (%) ❎	☐	Curandero	11	80	80	41	150	1 063	1 100	475
Student 11	🟢 GP 🔴 (%) ❎	☐	Guerrero	7	57	80	150	150	663	700	10
Student 12	🟢 GP 🔴 (%) ❎	☐	Mago	3	60	80	150	150	253	300	95
Student 13	🟢 GP 🔴 (%) ❎	☐	Mago	8	60	80	150	150	736	800	295

Figure 2. General overview of the classroom progress

3.3.2. Points and powers

There are several kinds of points students can lose or earn – the teacher can modify their settings in order to meet the needs of the class. Experience Points (XP) allow students to level up and unlock powers. These points are earned when students behave and perform well in class; for example, during the intervention, students earned 20 XP if they helped a classmate. Health Points (HP) are lost when students behave negatively in class. For instance, students lost 10 HP if they used inappropriate language and 30 HP if they did not bring their homework. If a student loses all the HP all the team members will lose 10 HP. In addition, the student who *fell in battle* would have to face a *sentence* such as doing extra homework or telling a joke in English in front of the whole class. Action Points (AP) enable students to use powers; these points were earned automatically each day. During the intervention students earned 10 AP each day during the first two weeks, and 25 AP during the last week. Finally, Power Points (PP) are earned each time students level up and allow them to unlock powers. Each power costs between 1 and 3 PP, depending if they are basic (1 PP), medium (2 PP) or advanced (3 PP) powers.

Powers enable students to gain privileges for themselves and their teams during the game. Some of the powers are set by default and cannot be modified by the teacher, but others can be adapted to the needs of the class. Each character has their own powers according to their role in the team. In this sense, Warriors have powers related to protecting the team such as *Protect 1* (set by default) which enables the warrior to take up to 10 HP damage instead of one of their teammates, receiving only 80% of the initial damage. Other powers such as *Frontal Assault* (adapted for the intervention) enable Warriors and their teams to get a hint during the exam. Some of the powers of the Magues included *Mana Transfer* (set by default) which makes all the teammates, except Magues, gain 7A and *Mage Circle* (adapted for the intervention), which allow Magues and their team to leave in blank one of the exam questions without any

penalty. To finish with, Healers could use, among others, *Heal 3* (set by default) to make a teammate gains 30 HP or *Prayer* (adapted for the intervention) to enable their teams during the exam to have access to their notes for one minute.

3.3.3. Other resources from *Classcraft*

In addition to the points and powers, *Classcraft* offers several tools to dynamize the class. During the intervention proposal, the *Wheel of Destiny* was used to randomly select a student or a team to answer questions, solve activities, etc. This resource was especially useful as there were numerous students willing to participate during the class and it was difficult to select one among all of them. In addition, it makes students stay alert and pay attention during class as they knew that they could be selected at any moment by the *Wheel of Destiny.*

The other resource used was *The Riders of Vay*, which is based on random events – the teacher can modify the events or add new ones. At the beginning of the class a random event appeared on the screen and all the students had to face its consequences. Events could be beneficial or unfortunate for one individual student, team or for the whole class. For example, *Abundance of Energy* made the player with least AP gain 15 AP while *Battle of Champions* made the player with most XP lose 20 HP. Some of the events add fun elements to the class such as *Good Manners* which penalized students with 10 HP if they did not address each other using *milord* or *milady* instead of their names.

Lastly, *Classcraft* platforms has a messaging platform which allow the teacher to send messages−files could also be attached – to a given student or the whole class. The platform also shows the teacher how many students have seen the message. This option was used as a reminder of their homework and to communicate with students that did not attend class a certain day.

4. Findings

In this section, results after analysing students' motivation before and after implementing the gamification proposal are exposed. Tables 1 and 2 show the overall results of the motivation survey (pre-test and post-test).

Concerning intrinsic motivation (see Table 1), there is a generalized increasing trend in all the values. When analysing the mean, it can be observed that some of the survey items, despite having increased, do not present a relevant variation. This is the case of items 3 and 7, which only increased in 0.8 and 0.12 points respectively. Therefore, the gamification proposal had a limited effect on students' perception of the importance of English for their future studies

as well as on their willingness to face difficulties. There are values such as the ones of items 1, 2, 5 and 6 that varied between 0.20 and 0.37 points, which shows a positive impact of the gamification proposal.

Table 1. Frequency comparison of intrinsic motivation

ITEMS OF THE SURVEY		INTRINSIC MOTIVATION													
		I work hard in English classes because I am interested in learning		I do all the tasks and activities proposed by the teacher because I think it fosters my learning.		I work hard in learning English because I think it would help me in my future studies.		I try to participate in class because I am interested in the subject.		I ask questions after the explanations in order to foster my learning.		I practice and review at home in order to foster my learning.		I am aware of my difficulties and challenges and I work hard to foster my learning.	
		1		2		3		4		5		6		7	
FRECUENCY		PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
Never	1	0	0	0	0	0	0	2	0	1	0	0	0	1	0
Rarely	2	0	0	1	1	0	0	5	0	8	6	3	5	0	1
Sometimes	3	2	2	5	1	1	2	6	7	9	7	10	5	5	5
Frequently	4	13	6	5	9	8	5	4	12	2	7	6	5	7	9
Always	5	6	13	10	10	12	14	4	2	1	1	2	6	8	6
Mean		4.20	4.57	4.23	4.43	4.51	4.69	3.34	4. 03	3.00	3.34	3.29	3.54	3.94	4. 06
Variation		0.37		0.20		0.18		0.69		0.34		0.25		0.12	

Item 4 (Figure 3) is the one that presented most variation as it increased by 0.69 points. There was an evident increase in the values Always and Frequently (A/FR) in both groups. In addition, it is remarkable how the values Never and Rarely (N/R) disappeared in both groups. Consequently, it can be concluded that the gamification proposal had a positive impact when it comes to fostering students' participation.
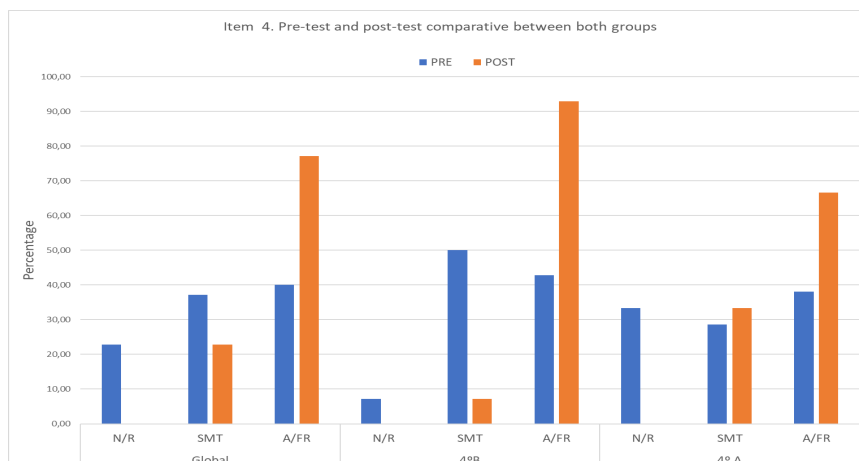
Figure 3. Item 4. Pre-test and post-test comparative between both groups

The answers of the students obtained from the open-ended survey also illustrate this situation. In this sense, one student pointed out that "Las clases han sido más entretenidas. A mí me ha ayudado bastante ya que gracias al juego he participado más en clase" [The classes were more entertaining. It has helped me a lot because, thanks to the game, I have participated more in class] (Student 6). In addition, some students said that they would have liked to participate even more with statements such as "Me ha gustado mucho, es una buena forma para que todos participemos y hagamos las tareas. Lo que menos me ha gustado es que salía muy pocas veces en la ruleta" [I have really liked it; it is a good way to make us all participate and work in class. What I liked least was that I was chosen very few times by The Wheel of Destiny] (Student 10) and "Me ha gustado mucho la forma de dar clase y he participado mas. Mejoraría la ruleta porque me han tocado pocas veces. El juego estaba muy bien" [I have really liked the way of teaching and I have participated more. I would improve The Wheel of Destiny because I have been chosen only a few times. The game was very good.] (Student 15).

Regarding extrinsic motivation (see Table 2), it is remarkable the appearance of two negative values in items 13 and 14 (-0.12 and -0.26 respectively). This could be an indicator that the gamification proposal had a negative impact concerning the perception of the students about the usefulness of English.

Table 2. Frequency comparison of extrinsic motivation

		EXTRINSIC MOTIVATION													
ITEMS OF THE SURVEY		I study hard because I want to pass the exams.		I try to participate in class because I can improve my grades and my effort is recognized.		I do all the tasks and activities in order not to have a bad grade.		I ask questions after the explanations in order to be able to pass the exams.		I think that learning English is important for my future.		I think that learning English is important to have a good job in the future.		I think that learning English is necessary to travel abroad.	
		8		**9**		**10**		**11**		**12**		**13**		**14**	
FREQUENCY															
		PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
Never	**1**	0	1	2	1	0	0	2	1	0	0	0	0	0	0
Rarely	**2**	2	0	5	1	0	1	6	4	0	0	0	1	0	1
Sometimes	**3**	2	2	6	3	4	2	10	6	0	1	0	1	1	2
Frequently	**4**	5	4	2	10	7	5	2	9	7	3	6	8	2	4
Always	**5**	12	14	6	6	10	13	1	1	14	17	15	11	18	14
Mean															
		4.37	4.49	3.51	4.09	4.31	4.60	3.0	3.31	4.74	4.80	4.66	4.57	4.77	4.51
Variation		0.12		0.58		0.31		0.31		0.14		-0.12		-0.26	

Similar values to the ones obtained when analysing intrinsic motivation can be found. In this case, items 8 and 12 (0.12 and 0.14 respectively) had a small variation compared to other items. Therefore, it can be concluded that gamification proposal had a limited impact regarding students' effort for passing the exams and their perception about the importance of English in their future.

However, as in the previous case, high values can be found in other items. Items 10 and 11 increased by 0.31 points, which indicates that students put more effort with regard to completing tasks and homework and asking their questions. Students' responses to the open-ended questions were in line with the previous results. "Me ha parecido muy interesante ya que te motiva mucho porque cuando haces la tarea te da puntos y hace que te guste hacer tarea" [I think it was very interesting as it motivates you a lot when you do the tasks and you get points and it makes you like doing tasks] (Student 4).

Finally, the value which increased most was question 9 – 0.58 points. Consequently, the gamification experience proved to be a great resource to increase students' participation.

Students' responses confirmed the results obtained. "Me ha gustado mucho porque te anima mas a participar en clase para conseguir poderes y esas cosas" [I liked it a lot because it encourages you to participate more in class to achieve powers and so on] (Student 17). Student 11 said "Me ha parecido una experiencia muy interesante y que realmente nos ha servido a todos. Hacíamos la tarea con gusto para obtener experiencia y poder subir de nivel y para no llevarnos una sentencio, claro está. Con este formato han hecho todos los días la tarea alumnos que no la solían hacer, por pereza o por olvido" [I found the experience very interesting and useful for all of us. We did the tasks and homework willingly in order to get experience and level up and for not having to face a sentence, obviously. This format has made that students who normally forgot or were lazy to do the homework did them every day].

In Figure 4, a clear increase in the values Always and Frequently can be observed in both groups. In addition, in the case of 4ºB group, the values Never and Rarely disappeared in the post-test.
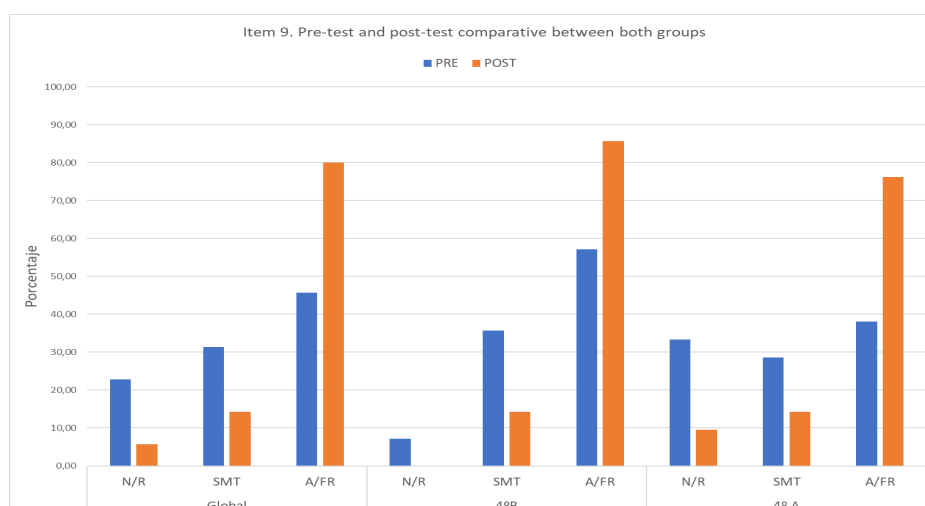
Figure 4. Item 9. Pre-test and post-test comparative between both groups

Figures 5 and 6 show means comparison between pre- and post-test in order to illustrate their evolution. Means are presented considering both groups separately as well as the global result.

Figure 5. Pre-test mean comparison

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Pre B	4,21	4,36	4,50	3,64	3,43	3,21	3,86	4,50	3,93	4,36	3,43	4,86	4,57	4,71
Pre A	4,19	4,14	4,52	3,14	2,71	3,33	4,00	4,29	3,24	4,29	2,71	4,67	4,71	4,81
Pre Glb	4,20	4,23	4,51	3,34	3,00	3,29	3,94	4,37	3,51	4,31	3,00	4,74	4,66	4,77

Figure 6. Post-test mean comparison

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Post B	4,64	4,57	4,86	4,43	3,64	3,50	4,21	4,57	4,36	4,86	3,43	4,86	4,86	4,57
Post A	4,52	4,33	4,57	3,76	3,14	3,57	3,95	4,43	3,90	4,43	3,24	4,76	4,38	4,48
Post Glb	4,57	4,43	4,69	4,03	3,34	3,54	4,06	4,49	4,09	4,60	3,31	4,80	4,57	4,51

Figure 7 shows the percent variation of the survey items between the pre- and the post-test. In general terms and considering both groups, it can be observed how gamification had a positive impact on students' motivation.

Percent variation of the survey items

	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
	1		2		3		4		5		6		7		8		9		10		11		12		13		14	
Never/Rarely	2,86	0,00	2,86	2,86	2,86	0,00	22,86	0,00	37,14	22,86	17,14	22,86	5,71	2,86	5,71	5,71	22,86	5,71	2,86	2,86	34,29	20,00	0,00	0,00	0,00	2,86	0,00	2,86
Sometimes	8,57	5,71	17,14	8,57	2,86	5,71	37,14	22,86	31,43	31,43	48,57	25,71	20,00	20,00	11,43	5,71	31,43	14,29	11,43	5,71	31,43	34,29	2,86	2,86	5,71	2,86	2,86	11,43
Frequently/Always	88,57	94,29	80,00	88,57	94,29	94,29	40,00	77,14	31,43	45,71	34,29	51,43	74,29	77,14	82,86	88,57	45,71	80,00	85,71	91,43	34,29	45,71	97,14	97,14	94,29	94,29	97,14	85,71

Items

■ Never/Rarely ■ Sometimes ■ Frequently/Always
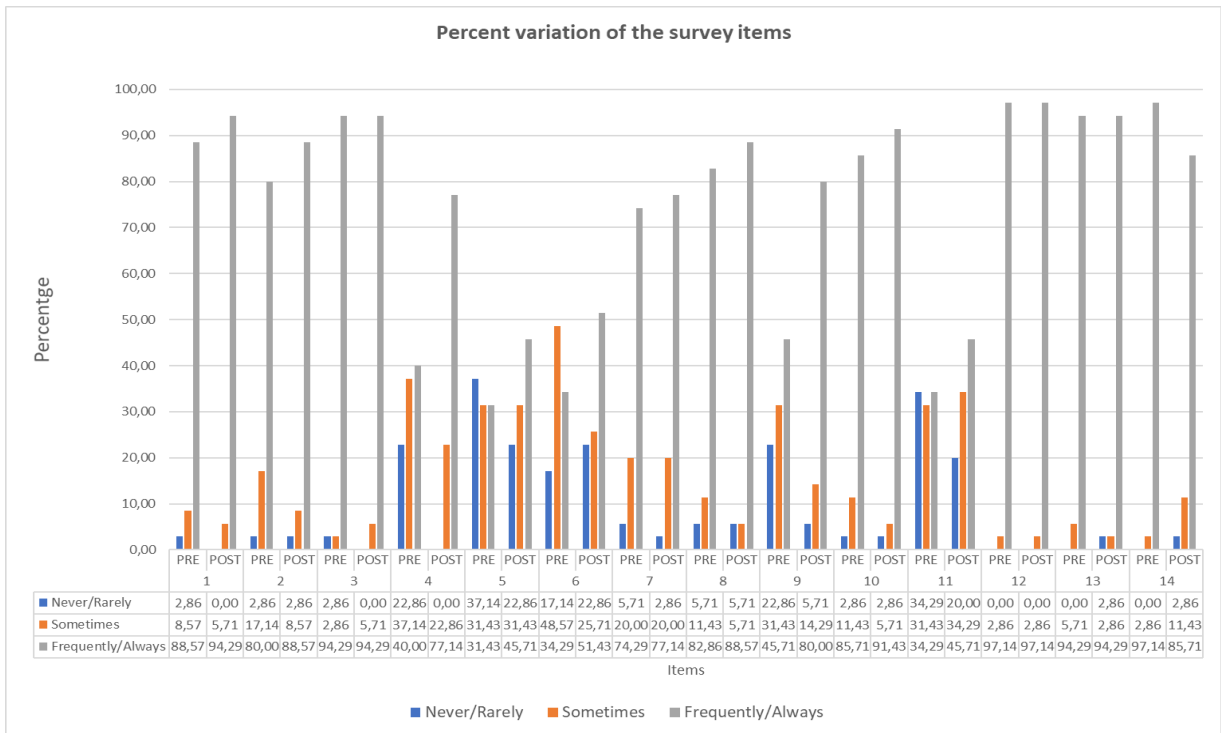
Figure 7. Percent variation of the survey items

Another interesting aspect to take into account regarding students' motivation is to analyse motivation variation in terms of their academic performance. Figure 8 shows the evolution of the motivation of those students who got a grade below 5 (failure) in their last school records. There is an increasing tendency except for items 5, 7, 13 and 14 where the post-test values are lower than those of the pre-test.

Motivation evolution of students whose grades were below 5 points

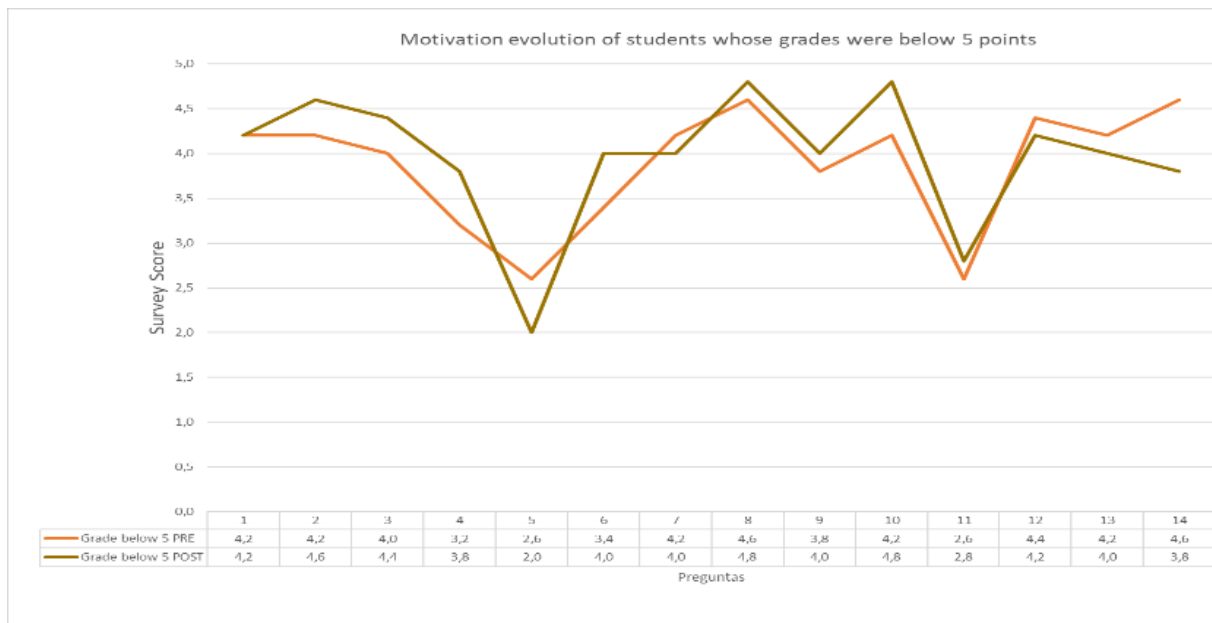|	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Grade below 5 PRE	4,2	4,2	4,0	3,2	2,6	3,4	4,2	4,6	3,8	4,2	2,6	4,4	4,2	4,6
Grade below 5 POST	4,2	4,6	4,4	3,8	2,0	4,0	4,0	4,8	4,0	4,8	2,8	4,2	4,0	3,8

Preguntas

Figure 8. Motivation evolution of students whose grades were below 5 points

Concerning students whose grades were between 5 and 6 points it can be observed (Figure 9) that the evolution of motivation has not been as remarkable as in other cases. In fact, some of the items such as item 2 and 7 had higher results in the pre-test. However, following the overall tendency, there is an increase concerning participation (items 4 and 9).

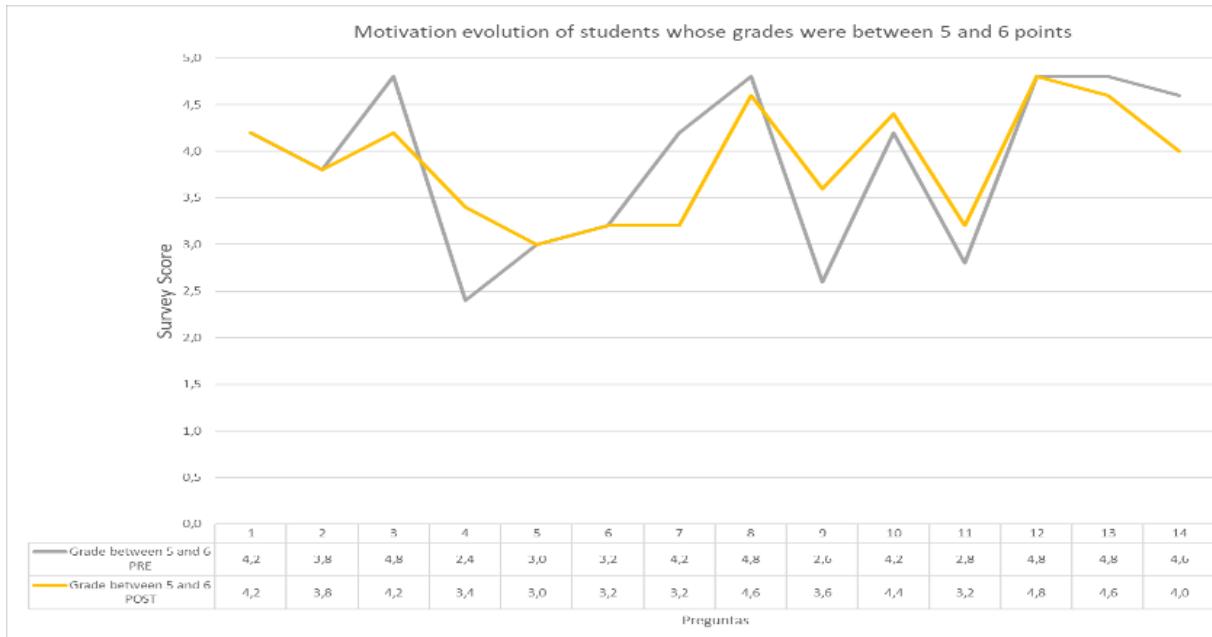|	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Grade between 5 and 6 PRE	4,2	3,8	4,8	2,4	3,0	3,2	4,2	4,8	2,6	4,2	2,8	4,8	4,8	4,6
Grade between 5 and 6 POST	4,2	3,8	4,2	3,4	3,0	3,2	3,2	4,6	3,6	4,4	3,2	4,8	4,6	4,0

Figure 9. Motivation evolution of students whose grades were below 5 points

In the case of students whose grades were between 7 and 8 points there is a general increasing trend in terms of their motivation (see Figure 10). Post-test values are higher than pre-test values, except for the last 2 items, which tend to decrease in all groups.
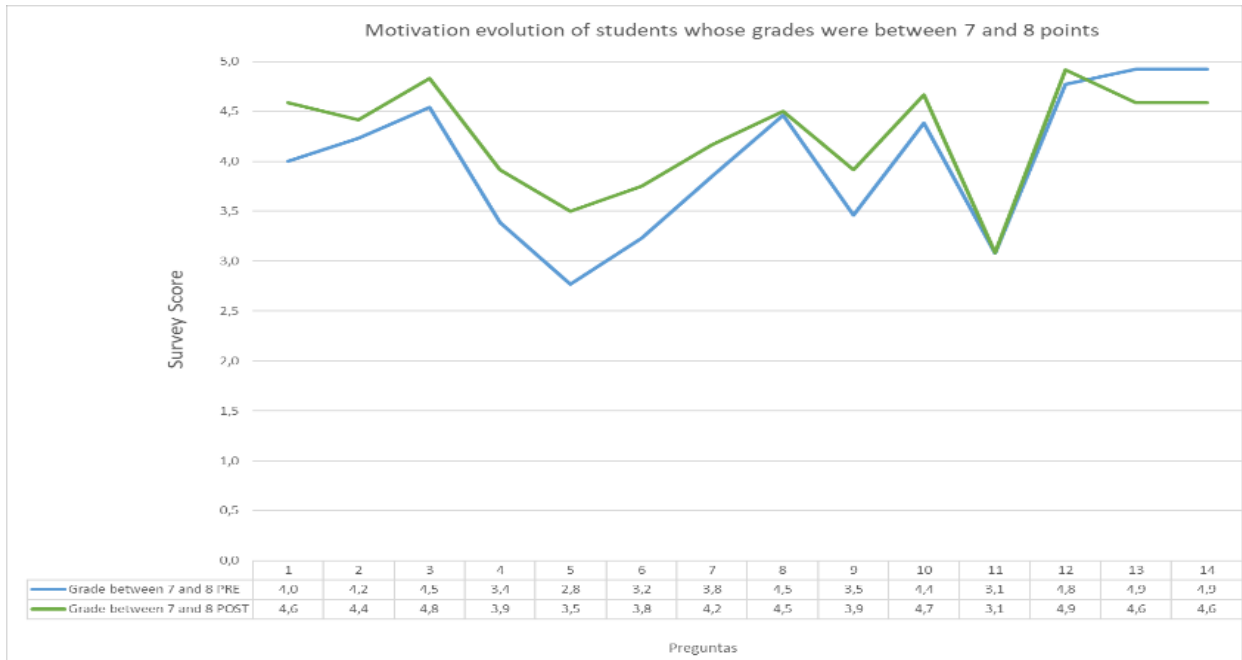
Figure 10. Motivation evolution of students whose grades were between 7 and 8 points

Finally, Figure 11 shows that students whose grades were between 9 and 10 points, as in the previous case, experienced an increase in their motivation after the intervention proposal.
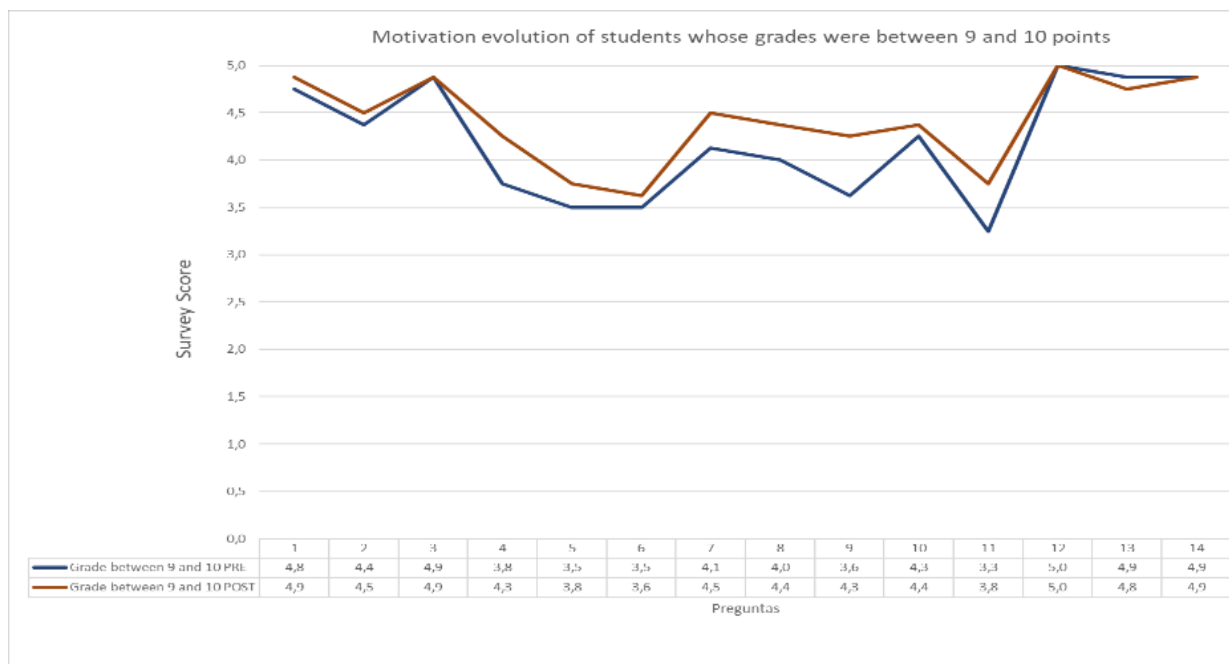

Figure 11. Motivation evolution of students whose grades were between 9 and 10 points

5. Discussion

Taking into consideration the main aim of this research – analysing motivation through gamification – it been proved that the gamification proposal, specifically, the implementation of

the role-playing platform *Classcraft*, had a positive impact on students' motivation. These results are in line with those described by González Reyes et al. (2017), Haris & Sugito (2015), Papadakis & Kalogiannakis (2018) and Sánchez et al. (2017).

The gamification proposal worked especially well with those students whose grades were high (between 7 and 10 points). This finding is not surprising as students with good grades normally show willingness and interest in class. Nevertheless, those students who had lower grades also showed a significant increase in their motivation. It is worth mentioning that there is an overall increase in students' participation because, as results describe, their interest in English increased (intrinsic motivation) and they wanted to obtain better grades and get acknowledgement (extrinsic motivation). In the light of the results, the initial hypothesis, namely that students' motivation will be fostered by implementing a gamification proposal – has been confirmed.

6. Conclusion

This study has proved gamification efficacy to foster students' motivation. Therefore, gamification is a great way to increase participation in the classroom, among other aspects. This is a key element in the EFL classroom as, generally, students are reluctant to participate given that they do not have enough confident to express themselves in another language or because they fear to make mistakes, etc. However, this research had some limitations such as the short period of implementation – the intervention lasted three weeks – and the sample size, which was limited to two groups of 4th year secondary students – 43 students.

It is worth mentioning that these kinds of proposals require a careful and detailed planification, which is time-consuming and requires effort of the teacher and, sometimes, teachers' and schools' circumstances are not favourable to implement and use these types of resources. In addition, gamification proposals must serve both the interests of the students – getting rewards, acknowledgement, fun, etc. – a and those of the teacher – foster students' performance, classroom atmosphere, etc. Consequently, it is essential to balance these two aspects in order to ensure success.

Finally, new lines of research have emerged such as investigating the causes of the decrease of the values of the items related to the usefulness of English for the future and travelling abroad. In addition, it would be convenient to extend the duration of the intervention and the size of the sample in order to obtain results that allow analysing gamification not only in terms of motivation but also considering the level of commitment and academic performance.

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A QUANTITATIVE STUDY OF THE PERCEIVED IMPACT
OF SOCIAL MEDIA NETWORKS
ON BAHRAINI USERS' ENGLISH LANGUAGE LEARNING

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Abstract

The various facets and networks of social media have had significantly phenomenal influence on the individual life and on the societal, economic, and political status of their users. The linguistic discourse of interlocutors on social media has also been influenced. The current study aims at measuring how the English language learning process of non-native Bahrainis has been affected by the use of social media. To explore such effects, a quantitative methodological measure was used in the form of an online questionnaire administered to a random sample of L2 Bahrainis. Responses from 330 respondents from different age groups and gender types were analysed using measures of central tendency and other statistical measures such as t-tests and ANOVA using SPSS. Findings have revealed that the utilization of social media has been perceived to have positively impacted interlocutors' lexical variation, writing style, reading skills, and communication skills. These findings were subjective to variables related to gender, age, and the multimodality of particular social media facets. Accordingly, some significant implications and recommendations are drawn, the most important of which is the provision of mechanisms to ensure the effective utilisation and employment of social media in the pedagogical practices in L2 contexts.

Keywords: social media; perceptions; language education; English as a second language; Bahrain

1. Introduction

During the last decade, the inception of the evolving and phenomenal facets of social media networks has been a fundamental breakthrough that has played a major role in the lives of millions of people. According to the latest data available on Statista (2020), there are around 3.96 billion social media users across the globe. Social media networks range from microblogs such as Twitter and sites and applications such as *Facebook*, *YouTube*, *Tumblr*, Instagram*, LinkedIn*, and *Snapchat*.

Social media networks have influenced all the socioeconomic, political, educational and personal aspects of life. In the area of education, a significant number of research studies have been conducted to gauge the effectiveness of these networks in different disciplines. Linguistically speaking, the influx of linguistic output on social media represents a myriad of opportunities for language learners to process language and receive input as young users of social media networks spend more than half of their days using and interacting on these networks using their language and communication skills. Hence, online conversations, whether oral or written, have replaced conventional face-to-face dialogues, leading to significant changes in the users' daily language and repertoire. The widespread use of smartphones, laptops, and tablets with affluent and facile social media applications has perhaps availed rich linguistic input at the fingertips of their users and have contributed in the production of comprehensible L2 output.

2. Literature review

The body of literature reflects a significant number of studies in the area of the effects of social media on the linguistic output of non-native speakers of English (NNSs). According to Chomsky (2014), our language is constantly, inevitably, and naturally changing, transforming, and becoming more adaptive to its users due to the changes in our contemporaries. More particularly, the inception and rapid development of social media networks as eminent pastime has led to the establishment of a distinctive language system necessary for operative communication (Attila, 2017). Baldwin (2012, p.58) posits that social media can be both a friend and a foe for natural language processing. While he considers social media a cause for "spelling inconsistencies, the free-form adoption of new terms, and regular violations of English grammar norms," he refers to the advantage of 'lexical normalization' in the same linguistic milieu. In this regard, Thurairaj, Hoon, Roy, and Fong (2015) investigated whether social media networks were 'making or marring academic English' and whether occasional online code-switching and erratic spelling affect NNSs' language learning process. Their statistical findings revealed that the discourse utilized on social media had not affected the participants' English language proficiency due to their enhanced consciousness of the differences between their online informal meta-language and their formal academic language.

Another advantage of social media mentioned by Baldwin (2012, p.58) is the ability to "disambiguate the textual content" and make it cohesive and coherent using the sources that are not textual such as links, linear structures of threads, multimodality of content, contextualized information related to cues such as identity and timestamps, and socio-pragmatic proficiency.

In addition, facilitated online interactions help interlocutors produce meaningful exchanges whilst using the target language in constructive manners (Mutum & Wang, 2010; Vie, 2007). This corresponds with Wenger's (1998) *community-of-practice* theory, which postulates that learning transpires while interlocutors mutually and recurrently interact on issues related to shared interests using a "shared repertoire of resources and practices" (p. 124) through feedback and peer reviews. Hence, socialization in the space of social media can be considered crucial in acclimatizing these interlocutors with the linguistic repertoire needed to succeed in meaningful communication of generated and shared information (Slim & Hafedh, 2019). Another advantage of social media is the reduced communication apprehension. People often exchange and share information and construct new personal and linguistic identities on social media networks because of being at ease with revealing their preferred identities behind monitors as a result of the anonymity expedited in such milieus (Blattner & Fiori, 2011). Lowered anxiety in online settings coined with heightened motivation and self-confidence have been shown to provide L2 learners with anxiety-free zones that enable them to produce language spontaneously and creatively (Al Jahrami, 2019; Chen, 2013; Klimanova & Dembovskaya, 2013; Mills, 2011; Mitchell, 2012; Lin, Warschauer, & Blake, 2016).

Studies conducted by Slim and Hafedh (2019), Thurairaj et al. (2015), as well as Kabilan, Ahmad, and Zainol Abidin (2010) have shown that social media networks such as *Facebook* and *Twitter* enhance students' overall language learning process. In particular, Zappavigna (2012) acknowledges the freedom people find on *Twitter* to voice their opinions and the effects of such freedom on their discourse. Mukherjee and Bhattacharyya (2013) recognize the effect of *Twitter* and propose a detailed lightweight sentiment method to analyze its discourse.

With reference to particular language skills, a significant number of studies have found that the use of social media enhances learners' grammatical complexity and vocabulary acquisition and learning (Al Jahrami, 2019; Attila, 2017; Mason & Rennie, 2008; Mills, 2011; Stevenson & Liu, 2010). Khan, Ayaz, and Faheem (2016) investigated the role of social media in enhancing English vocabulary and found it significant. Mason and Rennie (2008) observe that vocabulary acquisition on social media has become a phenomenon due to the employment of techniques such as coining and compounding to produce words such as *Face+book, Snap+chat, and Blog+sphere*. Another employed technique is sound imitation resulting in words such as *Twitter* which comes from the verb *tweet*, and *Boo* which reflects the sound of contempt. Similarly, social media have affected the forms of different words. For instance, the proper names of social media applications and websites have become verbs and adjectives (e.g.

Google it, I'll Instagram this). Another technique is the change in the negative form of the verb *like* and the noun *friend* to become *unlike* and *unfriend*. Added to that, the semantic connotations of many words have undergone change on social media (e.g. *wall* on *Facebook*, *spam, steam, etc*.). As to the writing skill, the fact that social media exchanges are more written than spoken in what is referred to as 'text speak'. Attila (2017) argues that the use of logograms, abbreviations, acronyms, and paralinguistic features (e.g. b4=before, Gr8=great) has made writing easier, faster and more liberated from the normal constraints of traditional writing. However, spelling can accordingly be negatively affected when frequently using logograms and abbreviations (e.g. *2day=today*). That said, Wood, Vardy, Hart, Plester, and Wilde (2011) found that their study's subjects exhibited commendable lexical retrieval skills. Improved oral proficiency with particular reference to speaking and listening was also evident in Chen's (2013) and Lin, Warschauer, and Blake's (2016) longitudinal studies. Lin, Warschauer, and Blake, however, caution that learners would need instructional guidance and tailored activities that are carefully structured in order to be able to use social media effectively to enhance their language learning process.

Notwithstanding the positive effects of social media on language proficiency, many scholars lament the harmful effects these networks might have on one's interlanguage with particular reference to erratic spelling and violated grammatical rules (Baldwin, 2012). Lin, Warschauer, and Blake (2016, p.143) claim that "language use on the Internet is often criticized as being less correct and less coherent than other forms of language use, and as having disrupted adjacency." Tariq, Mehboob, Khan, and Ullah (2012) reported negative effects of social media on their Pakistani students' L2 learning process. Similarly, Akram and Albalawi (2016) found *Facebook* to be a negative learning distraction with their Saudi students.

Amidst these conflicting claims, the current study aims to verify the possible effects of social media on English language learning from the perspectives of its users in the Bahraini context. Ever since the inception of the Internet, Bahrain has been one of the pioneering MENA (Middle East and North Africa) countries to copiously utilise the World Wide Web and all its facets for different socioeconomic and educational purposes. According to recent statistics, Bahrain ranks 40 globally among the countries that provide Internet speed on mobile networks and it also provides the cheapest Internet services among all Arab countries (Ookla, 2020). It is not surprising, then, that social media networks are heavily used by Bahrainis with a percentage of 99.7%, according to international statistics (Al Ayam Newspaper, 2020). Nevertheless, no studies have been conducted to evaluate the possible gains of the broad use of social media

networks on the learning of the English language and to view the perceptions of their users in regard to these possible gains, which is a gap in literature that the current study aims to fill.

3. The study

3.1. Aims and research questions

The current research study aims at examining the effect of social media on the English language in Bahrain from the users' perspectives. In particular, the study endeavors to answer the following main research questions:

1. What social media networks are the most frequently used by Bahrainis?
2. What is the level of Bahraini people's overall perception of the effects of social media on their English language learning?
3. What are the most influenced English language skills by the use of social media?
4. What are the variables that affect English language learning on social media?
5. Are there significant differences in Bahraini people's overall perceptions towards the effects of social media on their language leaning and their gender and age?

3.2. Data collection and analysis

In order to answer the aforementioned research questions, an online questionnaire was administered via *Google Forms* to 400 Bahraini social media users. Out of these 400 Bahrainis, 330 respondents filled in the online questionnaire with a response rate of 82.5%. The respondents were 215 females (65%) and 115 males (35%) who belonged to five different age groups: a. *17 or less* (9%), b. *18-25* (68%), c. *26-35* (15%), d. *36-46* (4%), and e. *More than 46* (4%). The fact that the majority of the respondents were young yet mature users of social media networks enhanced the research study's internal validity and reliability.

After eliciting respondents' demographic information (age, gender), the questionnaire contained two sections: Section A (*Type and Frequency of Usage of Social Media*) which contained two questions, and Section B (*Relationship between Social Media and English Language Learning*) which contained 15 different questions, two of which were opinion questions using 5-Likert scale for 5 items and 40 items, respectively.

To answer the research questions and examine the correlations and differences among variables, data from the questionnaires were coded and analysed using descriptive statistics and measures of central tendency (means, standard deviations, and percentages) in addition to paired sample *t*-tests and ANOVA using the Statistical Package for the Social Sciences (SPSS).

4. Results

Following the analysis of the data obtained from the aforesaid data collection methods, a number of key findings were attained.

The first finding is related to the number of hours Bahraini users spend on social media networks. Almost 70% of the respondents acknowledged using them for at least 3 hours on a daily basis (*see* Figure 1). In particular, 37% of them reported that they spend around three to four hours daily while 35% of them stated that that they spend five hours or more using these networks.
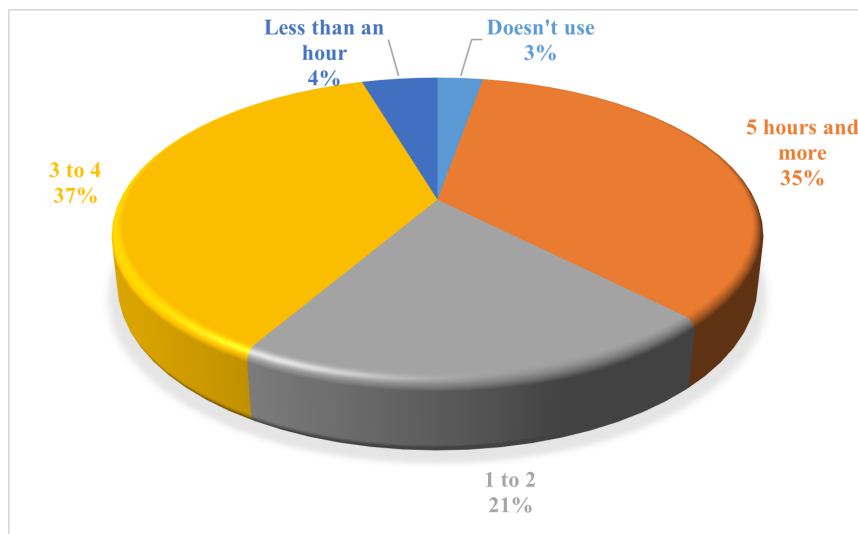

Figure 1. Number of hours spent on social media networks

In addition, Bahrainis reported that they mainly use social media networks to communicate with friends (29%) and with family members (20%). Other purposes for using social media were to share information (20%), learn (18%), and work (13%).
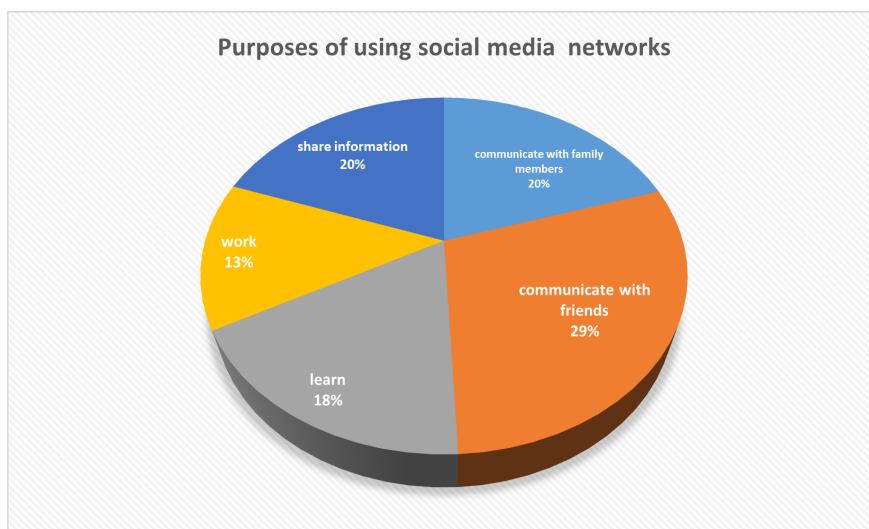

Figure 2. Purposes of using social media networks among Bahrainis

As illustrated in Table 1, *Twitter* was found to be the most frequently used social media network among respondents (49.8%), followed by *Instagram* (26.1%). This signifies that the social media interactions in which almost half of the respondents are involved are asynchronous and written-based, unlike the synchronous oral-based interactions facilitated on networks such as *Snapchat* or *YouTube*.

Table 1. The most frequently used social media networks

N.	Social Media Networks	Freq.	Percent
1	*Instagram*	86	26.1
2	*Facebook*	13	4
3	*YouTube*	54	16.4
4	*Tumblr*	8	2.4
5	*Twitter*	164	49.8
6	*Snapchat*	68	20.7
7	Others	12	3.6

In addition, the respondents reported that they equally use Arabic and English on social media. Only 5% of the respondents indicated that they use *Romanised Arabic* (i.e. writing Arabic using Roman letters). According to the body of literature, written-based interactions on social media have been shown to be effective in enhancing certain levels of competence in the English language (Kabilan, Ahmad & Zainol Abidin, 2010; Thurairaj et al., 2015; Zappavigna, 2012). This was evidently found in respondents' overall perception of the effect of social media on the enhancement of their English language learning, as illustrated in Table 2 and Figure 3.

Table 2. Bahraini's overall perceptions of the effects of social media on English

What is the effect of social media on your English language?		Frequency	Percent
Valid	Positive	196	59.4
	Some effects	105	31.8
	No effect	20	6
	Negative	9	2.8
	Total	330	100

More than 59% of the respondents (n=196) stated that using social media networks has had a positive impact on their English language learning while 32% of the respondents (n=105) reported that using these networks has had some positive effects on their English. Conversely, only 8.8% reported that using social media networks has either had no effect or has had negative effects their English language learning. Hence, it can be induced that Bahrainis have a positive attitude towards the effect of social media on their linguistic repertoire. Similar

findings were found by Sitthirak (2012), who acknowledged the attitudinal impact of social media on language from an educational perspective.
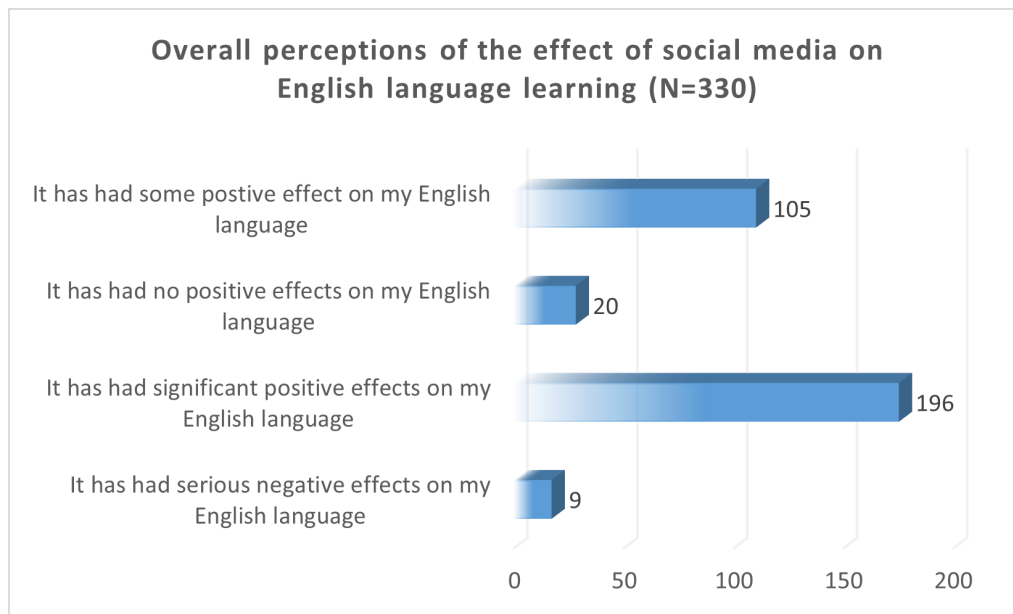

Figure 3. Respondents' overall perceptions of the effect of social media on English language learning

Notwithstanding, a number of negative effects of social media on English language learning were reported by some respondents (*see* Table 3). These were mainly related to the use of foul language, abbreviations and inaccurate spellings, which could negatively affect their academic writing and academic examination results as they considered these negative effects major contributors to the mass failure of students in their L2 courses and examinations. Bahraini users' reservations correspond with the views of the respondents in the studies of Akram and Albalawi (2016), Lin, Warschauer, and Blake (2016), and Tariq et al. (2012).

Table 3. The negative effects of social media on English

Statements	Mean	Std. Deviation
11. [Social media exposes students to abbreviations and inaccurate spellings which later have negative impacts on them during examinations]	3.70	1.007
12. [Social media contributes to mass failure of students in English language and other English related courses or subjects]	3.41	1.098
13. [Social media encourages examination malpractices in schools]	3.61	.960
14. [Social media is a wastage of students' time that should be wisely invested in academic and profitable ways	3.65	.973
15. [Social media encourages the use of foul language and cyber bullying]	3.74	.887

In particular, the respondents who acknowledged the positive effects of social media on their English learning reported different levels of language skills enhancement. As shown in Figure 4 below, the respondents perceived their reading skill to be the most enhanced skill due to social media (24%) followed by their communication skill (21%) and their writing skill (20%). Given that the majority of the respondents were using written-based social media networks such as *Twitter* and *Instagram*, speaking and pronunciation skills were perceived as the least enhanced.
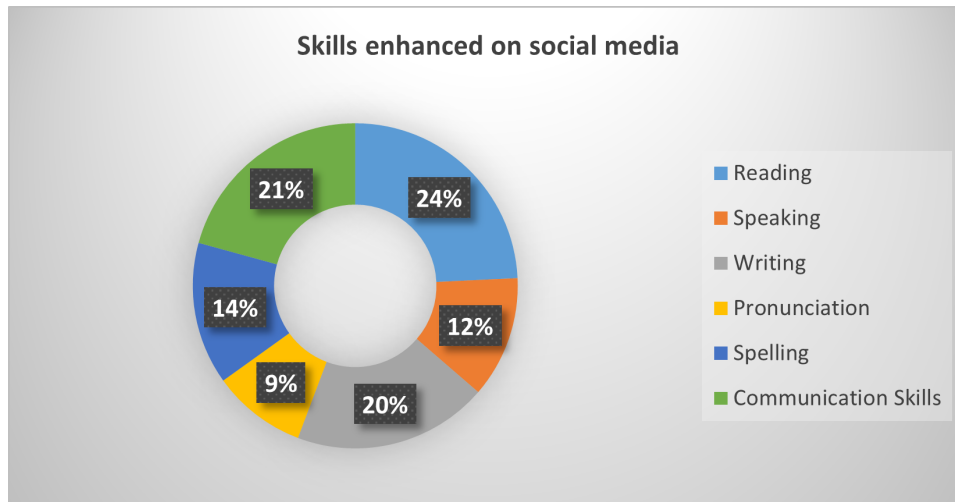
Figure 4. English language skills enhanced on social media

These findings corresponded with the aforementioned ones related to respondents' views on the particular effects of social media on the enhancement of these skills. With reference to Research Question 3, results of the mean and standard deviation show positive perceptions of the respondents of the effects of using social media on their L2 writing (see Table 4). In addition to improved English language learning, these effects included enhanced writing style, quality, and quantity. Al Jahrami (2019) and Li (2017) have similarly found that online interactions on social media networks and online facets significantly develop L2 learners' writing accuracy and complexity. These findings could also be related in this regard to the influence of the projection of authorial and social presence and identity practices facilitated on social media due to the increased linguistic input and output on these platforms in comparison to the less-advantageous classroom settings (Chen, 2013).

Table 4. Effects of social media on L2 writing

Statements	Mean	Std. Deviation
6. Social media influences my style of writing.	3.85	.938
9. Social media introduces students to modern writing patterns.	3.83	.887
22. Social media helps me write better in English.	3.44	1.209
31. I learn English through extensive writing on social media networking platforms.	3.47	1.202

In addition, the majority of the respondents reported perceived satisfaction with the effects of using social media on improving their lexical richness through the learning and use of the lexical items exchanged on social media, as shown in the statements in Table 5. Studies such as Baldwin (2012), Khan, Ayaz, and Faheem (2016), Sim and Pop (2014), Teng (2015), and many others acknowledge the effect of the intentional and incidental cognitive internalization of vocabulary learning mechanisms such as noticing, unconscious repetition while reading and writing, and retention on social media networks.

Table 5. Effects of social media on vocabulary learning

Statements	Mean	Std. Deviation
4. Social media improves my knowledge about new terminologies in English	3.92	.963
5. Social media helps vocabulary development.	3.98	.880
23. I derive most of the terms I use from social media	3.58	1.194

Furthermore, respondents highly valued the enhanced global communication and interaction facilitated by the use of social media, as reflected in the mean scores of the statements in Table 6. This finding corresponds with the aforementioned fact that Bahrainis primarily use social media for communicative purposes with family members and friends. Similar findings were found by Swaitek (2013).

Table 6. Effects of social media on L2 communication skills

Statements	Mean	Std. Deviation
2. Social media changes the way people communicate and share information.	4.17	.899
3. Social media improves the way people interact globally.	4.16	.878
21. Social media improves English language communication skills.	3.82	1.035

In this regard, a number of variables affecting English language learning have been verified by Bahraini users of social media. Perhaps the most significant variable is the conscious correction of mistakes while using social media network. The vast majority of the respondents (91.5%) reported that they consciously correct their own grammar and spelling mistakes and those of their interlocutors on social media, as shown in Figure 5. Studies conducted by Thurairaj et al. (2015), Yunus, Salehi, and Chenzi (2012), and Zaidieh (2012) similarly found that users edit their writing for grammar and spelling mistakes before posting them which, accordingly, could signify users' conscious use of social media networks as learning tools.
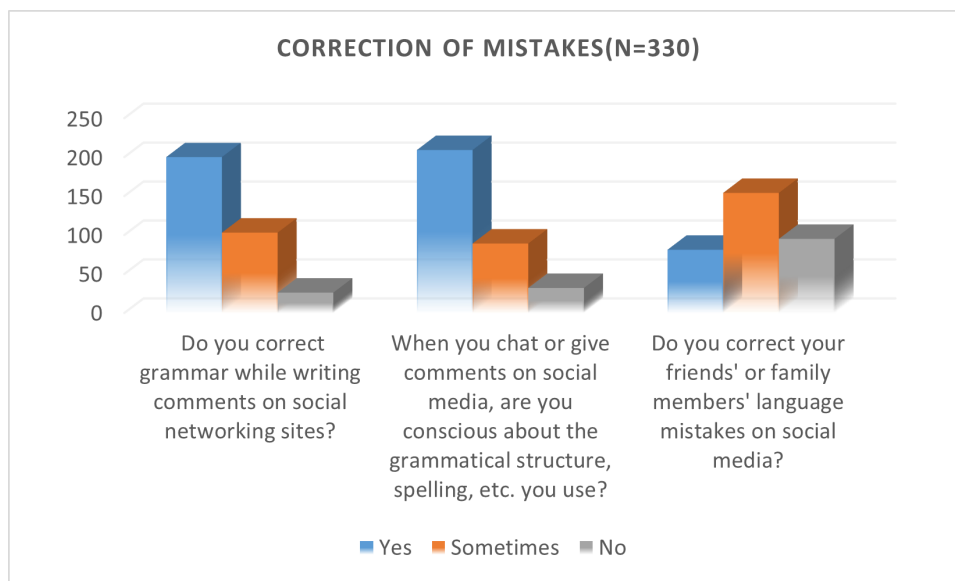

Figure 5. Correction of mistakes

Another variable is the utilization of translation. As shown in the descriptive statistics in Table 7, translation websites, features, and tools availed on social media were found to be highly used by the respondents. Given that Bahrainis equally use Arabic and English on social media networks, translating the content displayed on these networks from and to their mother tongue seems to positively contribute to the enhancement of their English language learning process. It is also noteworthy to assert that translation is deployed by respondents prior to posting on social media networks which, accordingly, could signify carefully constructed linguistic output in which significant editing is employed.

Table 7. Using translation on social media

Statements	Mean	Std. Deviation
1. I often use translation websites	3.34	1.171
38. I use translation features on social media networks	3.75	1.041

39. I get help from translation tools before sending any post on social media networks	3.70	1.026

In addition, social media users seem to highly benefit from L2 learning platforms and professional instructional accounts to learn and practice English and to take English language tests, as shown in Table 8. In this regard, Reinhardt (2018) acknowledges the enhanced authenticity in the presence of a real audience and increased learner autonomy on social media L2 learning networks which could result in intentional and incidental language learning.

Table 8. L2 learning platforms and links

Statements	Mean	Std. Deviation
27. I follow English language teachers through social media networks to improve the target language	3.60	1.146
28. I follow online platforms on social media networks to learn the English language.	3.53	1.082
30. I take tests in English to evaluate my level in the target language.	3.48	1.217
37. I use applications through social networks related to language learning.	3.56	1.144
40. Online platforms related to language learning are very helpful for learning my English language.	3.74	1.051

Furthermore, respondents considered engaging in oral and/or written L2 communication with others on social media to be highly effective in enhancing their overall language proficiency (see Table 9). This could be attributed to the expedited production of constructive, authentic, meaningful, and personal communicative exchanges with foreign and non-foreign interlocutors on asynchronous and synchronous social media networks such as discussion groups and chatrooms. As previously mentioned, the presence of a real audience on these networks seems to make them more advantageous than traditional classroom milieus (Al Jahrami, 2019; Mutum & Wang, 2012).

Table 9. Interactive communication

Statements	Mean	Std. Deviation
29. I try to enhance the language ability by communicating with foreign people via social media networks.	3.65	1.120
31. I force myself to learn language by writing sentences on social media networking discussion groups.	3.47	1.202

32. I use live chatrooms on social media networks to improve my English language.	3.34	1.237

In addition to the aforementioned variables, other factors such as the utilization of audio-visuals, extensive reading of news, and exposure to accurate accents and pronunciations were also reported to be highly effective.

With reference to the demographic background of the respondents, however, the study found no significant differences between the overall positive perceptions and gender, as shown in the results of the paired sample *t*-test below.

Table 10. Correlation between Bahraini's overall perceptions and gender

	Female (215)		Male (114)		t	df	Sig.
	M	Std.D.	*M*	Std.D.			
Bahraini's overall perceptions	3.71	0.49	3.71	0.55	0.069	327	0.945

Similarly, the overall perceptions were correlated to the respondents' age groups using ANOVA. However, no significant differences were found between these age groups, as shown in Table 11.

Table 11. Correlation between Bahraini's overall perceptions and age group

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.750	4	.187	.704	.589
Within Groups	86.194	324	.266		
Total	86.944	328			

These two tables reveal that neither age nor gender affected the overall positive perception of Bahrainis of the impact social media networks had on their English language learning. This finding deserves particular attention as male and female young, mature, and old Bahrainis equally and collectively perceived the positive effects of using social media on English language learning. Hence, online socialization seems to have positively affected the production of an acknowledged linguistic repertoire independent from age or gender (Slim & Hafedh, 2019; Sitthirak, 2012).

In sum, the emerging findings of the study indicate that Bahrainis use written-based social media networks more than the spoken ones for communicative purposes. The most used social media network is *Twitter*. The vast majority of Bahrainis perceive the positive effects

social media networks have on their English language learning process in general and on their reading, writing, lexical knowledge and communicative skills in particular due to variables such as the conscious correction of mistakes, enhanced interactive communication, and use of translation and L2 learning platforms. What deserves particular attention is what the findings suggest with reference to the facilitation of social media networks of the intentional and incidental internalised language learning processes. Perhaps the most significant finding here is the fact that Bahrainis are conscious while correcting their grammar and spelling mistakes on social media platforms. They also perceive enhanced writing and vocabulary learning due to the use of these networks. This is similar to the findings obtained by Mutum and Wang (2010); Thurairaj et al. (2015), and Slim and Hafedh (2019). Hence, it is safe to argue that social media networks can enhance higher-order thinking skills. Schmidt's (1990) *Noticing Hypothesis* posits that input becomes intake only when it is noticed. When students read extensively, they notice lexical terms that develop into intentional and incidental intakes (Hulstijin, 2013; Nation, 2008;). Teng (2015) acknowledges the vivid correlation between rigorous reading and vocabulary intake, which could be attributed to the employment of intentional and incidental vocabulary learning strategies. This is particularly applicable when the messages read online intrigue the readers' intrinsic motivation and immediate interest. Hence, learning vocabulary is managed by incidental and intentional internal mechanisms such as noticing, word recall, cognition, and long-term retention (Ahmed, 2017; Hulstijin, 2013) as the readers are not merely reading for comprehension but for communicative purposes for which input is considered comprehensible (Krashen, 2003; Yali, 2010). This is also a truism when language accuracy is concerned. Research has shown that extensively reading and writing online can enhance L2 learners' grammatical competence (Al Jahrami, 2019).

5. Conclusion, implications and recommendations

The research study investigated the effect of social media on the English language proficiency from Bahraini users' perspectives. The aforementioned findings suggest that Bahrainis, regardless of gender or age, find social media networks effective in enhancing their L2 proficiency with particular reference to how positively they influence L2 writing, vocabulary learning and communication skills. They also reported deploying a number of language-related techniques that help them enhance their L2 proficiency such as correcting mistakes before posting, using translation tools, and using L2 learning websites and applications. The major negative effect of social media perceived by Bahrainis is the use of abbreviations and

ungrammatical spellings. Based on these findings, it is safe to conclude that social media networks can be appreciably helpful in enhancing the target language.

The findings of the study can serve as crucial indicators to implement instantaneous pedagogical reformations, for which a number of pedagogical implications can be proposed. Social media networks can be utilised to make teaching more student-centred through the facilitation of interactive collaboration and exchange of information leading to enriched syntactic and lexical complexity. Based on Selwyn's (2012) recommendations and inspired by the requirements of the new generation of students who are highly advanced in the use of social media and technological interfaces, higher education institutes should base the pedagogical practices on collectively explorative, playful, and ground-breaking principles. L2 teachers in particular need to use social media networks to support their teaching methods and augment their material with interactive and innovative activities on social media such as online debates and threaded discussions. Another equally important pedagogical implication is the design and delivery of professional development and training sessions to teachers on the ultimate utilization of social media as instructional technologies. Correspondingly, knowledge transfer workshops, seminars and think-tank hackathons need to be organized to exchange pedagogical success stories and anecdotes of the use of social media in ELT contexts. Social media networks can be employed in this regard to provide authentic extensive reading tasks that can facilitate intentional and incidental vocabulary learning and writing complexity. In addition, awareness campaigns can be coordinated by e-learning educationists and advocates to acknowledge the benefits of online learning and teaching and validate the correctness of online discourse and acceptability of social media learning, mobile learning, and hybrid teaching via learning management systems (LMSs), especially during and after the COVID-19 era. The question of how online technologies in general and social media in particular can be used to augment language learning classroom in the local context, which has been lying dormant for decades beneath the expected levels regardless of sporadic calls for educational reform, has been addressed and resolved with the sudden shift to e-learning and the urgency to utilise of online instructional technologies in the teaching and learning process. This consequently necessitates that L2 opposing educationists and sceptical decision-makers with reference to e-learning and use of instructional technologies revise their traditional views and reform the conventional technology-free teaching methods and approaches and embrace the various facets of the provision of e-learning, including the effective and careful employment of social media.

Although the number of subjects in the study was high, future studies could focus on obtaining the perceptions of a significantly greater number of respondents. Furthermore, given

that the findings of the study cannot be conclusive as they mainly relied on questionnaire responses, qualitative data collection methods coined with quantitative methods could be used to enhance the findings' internal validity and reliability. In addition, the linguistics gains of asynchronous social media networks could be investigated separately from synchronous ones in order to highlight their educational gains and further investigate the internalized cognitive processes and higher order thinking skills practiced in the context of social media networks.

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HOW SAMR-BASED VOCABULARY TEACHING SHAPES VOCABULARY LEARNING STRATEGIES

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Abstract

The study was aimed at identifying the learners' vocabulary learning strategies as they were engaged in tasks assigned along the SAMR model. A class of EFL learners was taught vocabulary with the assignments following SAMR. The model led them through four stages: substitution, augmentation, modification, and redefinition. The results showed that the learners increasingly used digital technology to accomplish their tasks. Their strategies were relatively more diverse, too. The metacognitive and social strategies, however, did not emerge substantially in their report.

Keywords: SAMR; digital technology; language teaching; vocabulary strategies

1. Introduction

The advancement in digital technology has ushered us in an era where teachers and students can integrate it into their teaching practice and benefit a lot from it. The integration moves along four stages that have been designated by Puentedura (2006) as Substitution, Augmentation, Modification and Redefinition (henceforth SAMR). While in substitution the teacher and students use technology merely to substitute for conventional techniques, the augmentation provides some functions that can enhance the learning experience. An example of the former is students' use of online dictionaries instead of typically bulky printed dictionaries. An example of the latter, on the other hand, is when students read a webpage and simultaneously look up some difficult words in an online dictionary. The next stage is modification, which allows for a novel design of the learning tasks made possible by digital technology. An example of this is students' use of multimedia to learn a set of new vocabulary. Ross, Li and Gunter (2018) argues further that in this stage technology should allow the learners to access a learning project, see their classmates' works and comment on them, thus creating a learning milieu independently of the teachers' intervention. Finally, a redefinition task enables teachers to create an entirely new learning experience which has never been

assigned before. According to Ross et al. (2018, p. 5) it is "where an entirely new task is available because of technology." It is to be noted that in each stage of the model digital technology is one of the main components. Without involving digital technology, an instructional activity cannot be regarded as a manifestation of the SAMR model. This characteristics accords with the general characteristics of the Millennial Generation, who, according to Battersby (2017), grow up with technology and are very adept at using smart devices and various application programs.

Furthermore, an instructional activity within the SAMR framework can be divided into two types: enhancement and transformation (Romrell, Kidder, and Wood, 2014). Substitution and augmentation are types of enhancement, while modification and redefinition are regarded as transformation. While the former refines the learning by making it more efficient, the latter involves the learners in activities that cover a broader scope and which often requires an integration of several different skills.

Against the background outlined so far, this research was aimed to identify the learners' vocabulary learning strategies as they were engaged in a series of tasks assigned along the SAMR model.

2. Literature review

In the area of vocabulary learning, a number of recent studies point out the benefits of using strategies to improve memorization and retrieval of the target words. Gang (2014) conducted a study of vocabulary learning strategies used by Chinese college students. The result suggested that while less proficient learners used repetition and association strategies most frequently, the more proficient learners varied their strategies and used them more consistently. This study suggested that diversity and consistency of strategies are instrumental to a successful vocabulary learning. Purwanti, Setiyadi, and Nurweni (2015) found out that students' strategies were highly correlated with their vocabulary mastery. A more recent survey by Zou and Zhou (2017) revealed that students used quite a wide range of vocabulary learning strategies to complement their conventional rote learning strategy. These recent studies underline the fact that conscious use of a wide variety of strategies have facilitated the learners' vocabulary learning. The current study aimed to see if these characteristics were amplified by the increasing demand of tasks throughout the SAMR model. The study intended to add to the whole picture of how SAMR model in the learning tasks impacts the learning strategies.

2.1 Strategies in SAMR context

A proper definition of learning strategies is in order. Cohen (2011, p. 7) defines learning strategies as follows:

> Thoughts and actions, consciously chosen and operationalized by language learners, to assist them in carrying out a multiplicity of tasks from the very onset of learning to the most advanced levels of target-language performance.

Cohen (2011, p. 10) also maintains that learning strategies are best considered as sequences of acts, as he contends in the following:

> There was, . . . consensus that strategies are generally not used in isolation, but rather in sequences . . . . This fact is often overlooked in studies which report on strategies as if the isolated use of each were the norm.

Learning strategies should be appropriate, diverse and purposeful (Oxford, 2004). A strategy can be a sequence of activities and "is more readily modified to suit the context" (Nisbet and Shucksmith, 2018, p. vii). Following this definition, a strategy in this present report is considered to comprise a sequence of activities, rather than individual acts, which help the learners accomplish learning tasks.

Bakti (2018) investigated the strategies for learning vocabulary used by 50 high school students in Indonesia. She found a number of strategies which she classified according to a taxonomy proposed by Schmitt (cited in Bakti, 2018). Guessing meanings from the context, asking friends or teacher about the meanings, studying and paying attention to the target words were reported to be the most frequent strategies. None of them, however, admitted having utilized Internet-based facilities or mobile apps. More importantly, the strategies were reported as individual acts rather than a sequence of acts that formed an array of strategies.

Hamilton, Rosenberg and Akeaoglu (2016) state that a lot more has yet to be explored in the application of SAMR in the educational field. Gu's survey (2015) indicated that students' strategies changed in the course of 6 months. This study provided evidence that strategies are subject to change depending on the dynamics of the learning demand. Mirzaei (2016) showed that learners who learned vocabulary through mobile application performed better than those who learned through pen and paper method. The lesson was carried out following SAMR model but it went as far as the augmentation phase only.

In their recent study, Nazri, Yunus, and Nazri (2016) reported that good language learners used their strategies very frequently, used more metacognitive strategies than cognitive strategies, and used more direct than indirect strategies. At the same time, Askar (2016) conducted a survey among 466 university students in Kurdistan and found that cognitive strategies were the most frequently used strategies, followed by memory strategies,

metacognitive strategies, and social strategies. Meanwhile, Lou and Xu (2016) claimed on the basis of their study that after receiving training in learning strategies, students reportedly used strategies that fell into three categories: metacognitive, cognitive, and social.

Akbari (2017) carried out another survey among ESP learners to identify their vocabulary learning strategies. She found that the most frequently used strategies were using bilingual dictionaries, and repeating target words in written or oral mode. No transactional strategy was used, indicating that the respondents never asked their classmates or teachers during their vocabulary learning. A recent study by Kulikova (2015) investigated the vocabulary learning strategies of 97 learners of Russian in a university in the United States. The most common strategies were using dictionaries, guessing, note-taking, and rehearsing through repetition. They also reported to do contextual encoding, activation, and affective strategies. While Kulikova's study offered an insight into the strategies by Western learners, it did not tell much about the diversity of strategies.

In the SAMR Model, the substitution and augmentation stages are considered as learning enhancement, while modification and redefinition are regarded as parallel to transformational learning (Kamijo, 2017). A study in this area was conducted by Azama (2015). In general, it was found that the students showed an improvement in their performance during the modification and redefinition stages. Also, many showed their interest in continuing the lesson by using technology. They tended to develop technology-related learning strategies when cooperating with their peers, and as a result improved their interpretive and presentational skills.

The current study aimed specifically at reporting sequences of acts that comprised learning strategies rather than single strategic acts. It was also designed to cover all stages in SAMR-based assignments and reveal how the students varied their strategies as they were engaged in the assignments. It also wanted to see whether social strategies are indeed scarce in a SAMR-based learning environment.

3. Methodology

3.1. Research objective

This study was conducted to see how learners of an English vocabulary class accomplished their learning as they were doing a series of tasks presented in a SAMR framework.

3.2. Research participants and procedure

This descriptive study involved first-semester students of English Letters who were taking vocabulary class taught by the researcher within the SAMR model. As such, it assigned the learners to do some tasks, with each task requiring them to use digital technology. At the end of each task, they were instructed to write the strategies they used for accomplishing the task. A more detailed description of each task of the stages is presented below.

The participants of this vocabulary course were 39 students in their twenties who were studying at English department at Universitas Ma Chung. In the class, they had to learn new words in a series of tasks within the SAMR model.

The first task, designed as a substitution stage in the SAMR model, instructed them to find a website containing academic words and then to learn those words. The second stage, designed as augmentation stage which followed three weeks afterwards, had the learners read a text and find the meanings of some academic words and other important words they found in it. The third task, intended as a modification stage, instructed them to use the academic words they had been learning in a brief essay of 500 words. They were asked to post their essays on *Edmodo*, and read their classmates' works and comment on the uses of some academic words there. Finally, the fourth stage, intended to be the redefinition stage, was comprised of two tasks. First, the students had to choose a text from the Internet that they liked and entered it into www.rewordify.com which would guide the learning of some target words in the text. The second task at this stage was making an essay using some academic words and submitting the text into www.lextutor.ca/vp/ in order to see the profile of the vocabulary in their own writing. Thus, the vocabulary learning was extended to writing. These two tasks were inconceivable prior to the era of technology-supported lessons, and the easy access to various websites that facilitate this kind of enhancement in vocabulary learning aptly fit the redefinition stage in the SAMR model.

The learners were asked to report the strategies they used for accomplishing each of the tasks above. Their reports were scored for diversity and use of information technology. Thus, for each set of strategies reported, two kinds of scores were given. The first score was given for the use of digital technology. A score of 1 was given to each receptive act of using the digital technology to enhance learning, i.e. whereby a learner merely reads a digital source or posts something on a certain digital platform without using it to process a certain set of input. A score of 2 was added each time a learner reported a productive use of digital technology, i.e. whereby a learner used it to process some language input. The second score was given for the diversity of strategies. A score of 1 was given for each strategic act reported. Thus, a sequence of

strategies that consisted of reading a word list, using mnemonic to memorize, and using the new words in sentences would be given a score of 3.

To ensure that the coding and the scoring were carried out with sufficient reliability, the researcher asked another senior lecturer to code and score the respondents' written reports. The coding and scoring from the researcher was then compared to that of the other rater to find the degree of interrater reliability. An analysis of Cohen Kappa was used with SPSS to find the reliability. The coefficient of interrater reliability was found to be 0.813, which was considered adequate.

3.3. Results and findings

The following tables summarize the reported strategies by the students. Table 1 below presents the strategies they used at the substitution stage (with AW = academic words, and AWL = Academic Word List):

Table 1. Strategies used at the substitution stage

Strategies	Number of students who use the strategies	Involvement of digital technology	Diversity
Taking AW from a website, reading and memorizing them.	7	1	3
Taking AWL from website, reading and writing to memorize them.	5	1	4
Taking AWL from a website, reading them, memorizing them, consulting dictionaries	5	1	4
Taking AWL from a website, learning words not familiar, using mnemonics, consulting Google Translate.	4	1	4
Taking AW from website, writing them, searching for the meanings, highlighting difficult words, and memorizing them.	2	1	4
Taking AW from website, writing them, search meanings from online dictionaries, reading repeatedly.	2	1	4
Taking AWL from a website, reading them aloud for listening and memorizing.	2	1	3
Taking AWL from a website, reading them	1	1	2
Taking AWL from a website, reading them, practice them by writing sentences.	1	1	3
Writing AW	1	0	1
Taking AWL from a friend, translating them, writing them twice.	1	0	3
Taking AW from a source, writing them, looking up the meanings from	1	1	3

Strategies	Number of students who use the strategies	Involvement of digital technology	Diversity
online dictionaries, writing down antonyms and determine the parts of speech of the words.			
Taking AW from a friend.	1	0	1
Taking AW from website, understanding them by looking at example sentences	1	1	2
Taking AW from a website	1	1	1
Taking AW from website, memorizing, repeating, using them	1	1	3
Taking AW from website, learning by reading and mnemonics	1	1	2

As the table above shows, reading the AW list and memorizing them are two prominently frequent strategies done by the learners. Most scored 1 in the use of digital technology, an indication that the task at this substitution stage did not prompt them to utilize the technology more frequently. In terms of diversity, some learners managed to use varied strategies such as using mnemonics, using *Google Translate*, writing sentences with the new words, and determining the parts of speech of the words.

The table below presents the strategies used at the augmentation stage:

Table 2. Strategies used at the augmentation stage

Strategies	Number of students who use the strategies	Involvement of digital technology	Diversity
Using online dictionaries to find meanings, then checking the context to find if they make sense, then writing the meanings and memorizing them by reading.	5	1	4
Using online dictionaries.	5	1	1
Finding the meanings of difficult words, and memorizing them by reading many times.	4	0	2
Finding word meanings in online dictionaries, making sentences with new words, and reading them again several times.	4	1	3
Writing new words many times and reading them many times to memorize them.	2	0	2
Using mnemonics to learn some new words.	2	0	1
Writing down new words, finding meanings from online dictionaries,			

Strategies	Number of students who use the strategies	Involvement of digital technology	Diversity
memorizing them by reading aloud.	2	1	3
Using Google Translate to find meanings, and asking friends.	1	1	2
Using online dictionaries to find meanings, comparing them to the text, and reading repeatedly.	1	1	3
Writing down target words, finding meanings from dictionaries.	1	0	2
Remembering movies which contain some new words.	1	1	1
Reading aloud several times.	1	0	1

As shown in the table above, many learners began using digital technology to accomplish the task. Online dictionaries were frequently accessed to facilitate the searching for word meanings. A number of students who made use of the digital technology also performed a sequence containing a variety of strategies, such as checking the context, writing the word meanings, making sentences with the new words, and then memorizing them.

The table below shows the strategies used during the modification stage:

Table 3. Strategies used during the modification stage

Strategies	Number of students who use the strategies	Involvement of digital technology	Diversity
Finding topic of interest, then Combining AW to compose an essay and posting it on Edmodo.	15	1	3
Reading classmates' essay and commenting on the use of AW.	5	1	2
Choosing AW, making paragraph with the AW and posting it on Edmodo.	5	1	3
Finding info about the ideas from the Internet, choosing AW, writing essays, entering it in AW highlighter, and posting it on Edmodo..	2	2	5
Finding topic of interest, writing essays, replacing some words with AW and posting it on Edmodo.	2	1	3
Selecting AW, discussing with dad to find the topic, developing the topic into an essay, and posting it on Edmodo.	1	1	4
Searching ideas from the Internet, writing sentences/essays using AW, and posting it on Edmodo.	1	1	2
Opening Edmodo to read some classmates' essays to get an idea, finding relevant articles on Internet, opening AW on Edmodo,	1	1	4

Strategies	Number of students who use the strategies	Involvement of digital technology	Diversity
writing essay using AW. Checking the Internet to find relevant materials, using AW in the essay, and posting it on Edmodo.	1	1	3
Writing an essay containing AW that have been memorized before, and posting it on Edmodo..	1	1	2
Searching AW in the Internet, using them to make sentences in the essay, and posting it on Edmodo.	1	1	3

As the table above shows, all learners now utilized digital technology to complete the assignment. At least two learners used the digital technology to make sure they had used AWs in their essays before posting them on *Edmodo*. As they used the digital technology more, they also used more varied strategies.

The table below shows the strategies used during the redefinition stage whereby the learners were instructed to utilize the website www.rewordify.com :

Table 4. Strategies used at the redefinition stage

Strategies	Number of students who use the strategies	Involvement of digital technology	Diversity
Finding an article on the Internet, copying it onto rewordify.com, finding new words to learn, posting the words on Edmodo.	28	2	4
Finding an article on the Internet, copying it onto rewordify.com, finding new words to learn, comparing them to the results from Google Translate and some other dictionaries, posting the words on Edmodo.	1	2	5
Searching for an article on the Internet, collecting all academic words that have been learned, finding academic words in the text, pasting it on rewordify.com	1	2	4
Finding an article from the Internet, learning its vocabulary by listening, trying to find the meanings, practicing pronunciation.	1	2	3
Asking a friend for opinions on what article is worth reading, finding an article from the Internet, reading it, posting it onto rewordify.com, learning the new words.	1	2	4
Finding an article on the Internet, pasting it onto rewordify.com, learning new words, translating into native language some words still not	1	2	4

Strategies	Number of students who use the strategies	Involvement of digital technology	Diversity
understood.			

Table 5 below shows the strategies used during the second task at the redefinition stage, i.e. where the learners had to write essays and entered them to the site www.lextutor.ca:

Table 5. Strategies used during the second task of redefinition

Strategies	Number of students who use the strategies	Involvement of digital technology	Diversity
Deciding on a topic, browsing the Internet, searching for more AWs to be used in the essay, writing the essay, processing it in Compleat Lexical Tutor.	10	2	5
Watching video clips, deciding a topic, reading articles, typing the essay, processing it in Compleat Lexical Tutor.	3	2	4
Deciding the topic, browsing Internet, searching for more AWs to be used in the essay, writing the essay, processing it in Compleat Lexical Tutor.	2	2	4
Checking Instagram, deciding on a topic, writing essays, checking online thesaurus, revising it, processing it in Compleat Lexical Tutor.	2	2	6
Finding a topic, searching the Internet for references, asking friends, developing the essay, processing it in Compleat Lexical Tutor.	1	2	5
Writing the essay, processing it in Compleat Lexical Tutor.	1	2	2
Discussing with dad, searching through Google, making an outline, writing the essay, processing it in Compleat Lexical Tutor.	1	2	5
Writing a story in native language, translating it into English, processing it in Compleat Lexical Tutor.	1	2	3
Reading articles, writing the essay, processing it in Compleat Lexical Tutor.	1	2	3
Watching a movie, writing essay, consulting online dictionary, processing it in Compleat Lexical Tutor.	1	2	4
Checking Edmodo to determine a topic, checking out some social media, deciding a topic, writing it, processing it in Compleat Lexical Tutor.	1	2	4
Creating a question on Instagram to	1	2	5

Strategies	Number of students who use the strategies	Involvement of digital technology	Diversity
find a topic, decide on a topic, reading articles, writing the essay, processing it in Compleat Lexical Tutor.			
Reading articles, listing possible topics, rereading the AW list, deciding on a topic, researching a little about the topic, writing the essay, processing it in Compleat Lexical Tutor.	1	2	7
Playing a game to find a topic, writing the essay, processing it in Compleat Lexical Tutor.	1	2	3
Searching for texts in movies, summarizing them, using some AWs in the essay, processing it in Compleat Lexical Tutor.	1	2	4

As shown in the table above, most learners now used the digital technology not only to find articles and post their works but also to process their essays and obtain a vocabulary profile. This stage even prompted some of them to access online social media or watch movies to find ideas for their essays. Again, as in the previous assignment summarized in Table 1, their increased use of digital technology was also accompanied by increased variation of their strategies.

4. Discussion

The review of the state of the art in the previous section has underscored some important aspects of strategy use by learners. As many of the studies have shown (Gang, 2014; Purwanti, Setyadi and Nurweni, 2015; Zhou and Zhou, 2017; Akbari, 2017), diversity of strategies and consistency in its use are characteristic of modern vocabulary learning. The findings above showed that the implementation of SAMR to vocabulary learning still retained repetition of target words and dictionary use as typical strategies but at the same time also made them more efficient. With digital technology, learners could read a text and click on new unfamiliar words to immediately know their meanings. In addition, the introduction of SAMR model encouraged the learners to take up other strategies that were very much dependent on digital technology. As shown in the tables, the learners increasingly used digital technology and varied their strategies as they went through the SAMR stages. SAMR apparently made them make use of digital technology to enhance their learning. An earlier study of a similar topic and similar result was done by Horst, Cobb, and Nicolae (2005). In their study, learners who were asked to utilize online concordance, dictionary, cloze-builder, hypertext and self-quiz database were able to

learn academic words more easily, a proof that such immediate online assistants was favored by the learners.

The result of the current study is also parallel to Azama's research (2015), which showed that as the learners went through modification and redefinition stages, their performance tended to improve. A similar finding also came up from Mirzaei's study (2016), which showed that learners studying from mobile application performed better than those studying with pen and paper. Although Azama's and Mirzaei's studies were more focused on learners' performance and the current study was more oriented on learners' strategies, they underscored the potential of SAMR model to leverage the vital aspects of learning. Thus, by applying SAMR, it is apparently possible to get the learners to engage in the whole spectrum of vocabulary learning with considerable efficiency, that is, starting from receptive skills (reading new words and memorizing them) and gradually progressing to productive skills (writing essays with the new words). Without SAMR and hence without digital technology, getting the learners to move through this stage from receptive to productive skills would have been more time-consuming and exhausting. A vocabulary class conducted in this fashion would probably be confined to asking the learners to read print texts, memorize new words, and write essays with little chance to comment on each other. They would have no opportunity to select articles they like, nor would they know the proportion of academic words and other sophisticated words they use in their essays. In short, the SAMR model opened up a wider learning experience for the students and at the same time prompted them to use a more varied repertoire of learning strategies.

As they progressed through the stages, their cognitive activities also became more complex, starting from remembering new words to creating essays with the newly learned words. This progression fit the cognitive levels in Bloom's taxonomy. This conclusion finds support in Parris, Estrada, and Honigsfield's (2017, p. 39) statement below:

> An awareness of the level of technology integration that a learning actually demands will inform the creation of more cognitively challenging tasks for students because as we move up the SAMR ladder, we also move up the inverted taxonomy of Blooms.

In addition, Parris et al. (2017) also argued that the transformative level of technology is manifested when teachers tap into students' creativity by prompting them to respond to lessons in novel ways. This was apparent in the modification and redefinition stage of my teaching, whereby the learners were given opportunities to accomplish the tasks by utilizing the modern digital technology. Finding ideas from movies or *Instagram*, or playing a game (see Table 4

above) are just two examples of creative strategies that these students were able to use thanks to the redefinition stage of the SAMR model.

At this point, an implication for teaching-learning activities in the modern era may be drawn. First, as Sarafianou and Gavriilidou's study (2015) has shown, learning strategies are 'teachable', and therefore language educators should include strategy training that makes use of digital technology in the curricula. Second, teachers should familiarize themselves with digital technology integration into their teaching practices so as to encourage their learners to adopt more varied strategies, some of which have been made possible with the assistance of advanced digital technology. If teachers rely on print materials and hardly use facilities provided by the digital technology, chances are their learners' strategies would also be stifled. In the case of vocabulary learning, the learners would probably still be able to memorize new words but fall short of putting them in longer discourse with greater efficiency. Or, they might expand their receptive vocabulary learning to productive aspects such as writing essays using the new words, but without digital technology such undertaking will be more time-consuming and burdensome for the teachers. Without digital technology, it would be practically impossible for teachers to provide useful feedback about the profile of words that their students use in their essays, something which was accomplished very quickly by a versatile website like *Lextutor*.

As Akbari (2017) pointed out, learners' vocabulary learning strategies invariably included the use of dictionaries and repeated rehearsal of the target words. These two acts seem to be the most common strategies used by learners across cultures, teaching contexts, and fields. Nevertheless, as the results suggested above, once the learning is geared to SAMR model and tasks become increasingly complex, the learners seemed to adopt more diverse strategies than just the two typical strategies above.

It is to be noted that the learners did not seem to use metacognitive strategies, a set of strategies which manifested in conscious planning and monitoring of their own thinking and progress. Thus, this seems to present a rather different picture from what Nazri et al. (2016) have found. An explanation can be offered for this tendency. The respondents may have used metacognitive strategies but did not articulate them in their reports because such acts may have been so automatic they were not brought to the level of consciousness. Indeed, as Diaz (2015) indicated in his study, for metacognitive strategies to be brought to the level of consciousness, these strategies have to be directly modeled to the students. The students should have plenty of opportunities to practice them so that these strategies occupy the short-term memory and can be immediately reported when such necessity arises. In the case of the current study, since modeling and intensive practice of metacognitive strategies were not given to the students, they

understandably did not report their metacognitive acts although they may have apparently used those strategies.

Vaseghi, Mukundan, and Barjesteh (2014) argued that strategies can be influenced by tasks and learners' context. When learners are confronted with a difficult task, they tend to adjust their learning strategies. It follows from this that the changes of learners' strategies in this present study as they were going through the SAMR stages was attributable to that tendency. Each stage of SAMR demanded a new sequence of strategies, with each stage making the learners utilize the digital technology more intensively.

The changing nature of the strategies used by the respondents may have been the result of the tasks given to them. This is in line with Oxford's argument (2004: 23) that "the demands of the task . . . essentially prescribe which learning strategies will be effective." Chamot (2005, p. 112) also stated a similar argument below:

> Learning strategies are sensitive to the learning context and to the learner's internal processing preferences. If learners perceive, for example, that a task like vocabulary learning requires correct matching of a new word to its definition within a specified period of time (as in a test), they will likely decide to use a memorization strategy. A different task, such as being able to discuss the theme of a short story will require strategies different from memorization—such as making inferences about the author's intended meaning and applying the learner's prior knowledge about the topic.

As can be seen in the tables above, the strategies during the substitution stage made less use of digital technology than the strategies during the redefinition stage. In terms of diversity, the learners also tended to use a wider variety of strategies when doing the redefinition task than when doing the substitution task. This tendency accords with Chamot's statement above. As the learners progressed through the SAMR model, they adjusted their profiles of strategies.

A question that may arise following this explanation is whether more proficient learners used more diverse strategies than the less able learners. The findings, having been generated from a small-scale descriptive study, did not reveal this. However, an exploration into possibilities is always interesting. It was possible that the more advanced learners used more diverse strategies than the less able ones. On the other hand, it was equally possible that both types of learners did not differ in terms of diversity of strategies but in terms of the match between the strategies they deployed and the tasks they had to accomplish. Indeed, as Chamot (2005) argued on the basis of several studies, good language learners are more adept at matching their strategies with the tasks at hand. If this was the case, the more able learners in this study might have used relatively fewer strategies than the less able ones but might have been better in using the right strategies for the kinds of tasks at hand.

The findings showed that repetition and the use of dictionary were indispensable strategies for learning vocabulary. The high frequency of repetition during the substitution stage may be accounted for by principles of short-term memory (STM), and long-term memory (LTM). According to Macaro (2001), STM can only hold a limited number of items to be processed before they are stored in the LTM. At the beginning, word meanings are stored and then retrieved from LTM in a laborious fashion; however, this process becomes less effortful as whatever is retrieved is repeated over and over again. This explains why repeated reading, memorizing, and retrieving of the new words was very frequent during the substitution stage.

It is also worth noting that very few learners used social strategies, namely those that connected them to other people in some kind of social interaction. The finding was in line with that of Besthia (2018), who found that social strategies (for example, asking teachers for word meanings, or working with friends) were the most frequently used by Indonesian university students. Quite probably, as vocabulary learning is largely considered as an individual effort, learners prefer using all other strategies by themselves to interacting with others. Some of the social strategies used by the respondents were interesting, though, and teachers could tap into these strategies in order to raise their students' social awareness.

A question that may be asked regarding the profile of strategies in the tables above was why some learners seemed to report very little, especially during the substitution and augmentation stage. This behavior seems to be related to motivation. As Macaro (2001) argues, motivation is strongly linked to the use of strategies. This entails the motivation to report the strategies, too. Thus, highly motivated learners not only use more strategies but also report more strategies when asked to articulate them. It was quite possible that those respondents who reported using more strategies were more highly motivated than those who did not. Another explanation may be related to consciousness of strategy use. As Macaro (2001) points out, many of the cognitive strategies are commonly executed automatically and therefore defied verbal reporting. Some respondents may have used cognitive strategies which they did not report because they were less aware of these automatic mental processing.

The study was not free from some limitations and therefore needs to be interpreted cautiously. First, the descriptive design could not indicate whether the SAMR model really influenced the learners' strategies because no comparison was made to another group of learners not taught with SAMR. It is suggested, therefore, that further research should use a more robust design such as an experimental design to assure that the model indeed promotes a change in the learning strategies. Secondly, the respondents were not divided into groups bearing some characteristics that may have influenced the impact, i.e. female and male, high

achievers and low achievers, and ease of access to the Internet. Had this been done, the findings may have been a little more refined, with the strategies of each group being identified. Also, they were not taken randomly from a larger population. Thus, the respondents may not necessarily be representative of the wider population of which they were part. The findings, however, should be able to serve as a preliminary picture of strategy that learners use when engaging in SAMR-based learning activities.

5. Conclusion

The report presents an exploratory research in the area of vocabulary learning strategies. The research aimed to identify the vocabulary learning strategies of some EFL learners as they were engaged in a series of activities given within the SAMR model. Numerous previous studies revealed significant findings about learners' strategies; however, there was a need to conduct further research that would inform how learners managed their vocabulary learning while doing tasks that increasingly involved the use of digital technology.

The findings showed that as the learners went through the different stages of SAMR, they tended to use digital technology more frequently and use more varied strategies. Their vocabulary learning still relied on repetition and dictionary use, but, in the case of the latter, the process was made much more efficient by the use of digital technology. The SAMR model, particularly the modification and redefinition stage, expanded their learning scope by permitting them not only to memorize vocabulary but also writing essays with the new vocabulary they had just learned.

The data gathering technique did not reveal the use of metacognitive strategies by the learners. The fact that such strategies may have resided in their mind as part of a subconscious process may account for such absence. Similarly, social strategies were very scarce, indicating that the learners perceived vocabulary learning very much as individual tasks.

Finally, it can be recommended that language teachers be armed with the skills of integrating technology in their language teaching practices. The integration will benefit their students by enriching their learning experience and making it more efficient.

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VIRTUAL REALITY ASSISTED PRONUNCIATION TRAINING (VRAPT) FOR YOUNG EFL LEARNERS

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Abstract

Technology integration has become increasingly prevalent in language education and technology teaching tools are currently used for English instruction. In line with this trend, it is also believed to be influential in teaching and learning pronunciation. To cast an empirical light on this issue, this study aimed to analyse the influence of Virtual Reality Assisted Pronunciation Training (VRAPT) on pronunciation of young Iranian EFL learners. With respect to this, 18 low-intermediate English language learners (6-12 years old) were invited to take part in the study held in the lab at Sharif University of Technology in Iran. First, their English language pronunciation was measured by a pronunciation pre-test through *Speech ace Browser*. Next, in a virtual environment, during 10 sessions (each session 90 minutes), the participants received instructions on all of the pronunciation items measured in the test (consists of English vowels like /ɪ/ and /i/ and also vowels of /ʊ/ and /u/) through the Virtual Reality (VR) game administered by a humanoid robot. The results of a paired samples t-test revealed that there was a significant difference between learners' performance before and after the training sessions. This paper recommends that simulated games within virtual reality could be applied in enhancing pronunciation skills of EFL learners and utilized in helping them to develop native-like pronunciation. It also generates new ways of thinking about VRAPT as an innovative teaching approach and creating an efficient and pleasurable English learning environment.

Keywords: Virtual Reality Assisted pronunciation Training (VRAPT); pronunciation practice; young EFL learners

1. Introduction

As the global features of English language is enhancing every day (Cook, 2016), English

language teaching and learning have been accompanied by many problems, both for native speakers as well as English as a Foreign Language (EFL) learners and teachers (Far & Murray, 2016). As these learners acquire languages in an environment beside the original language situation, they are always faced with many obstacles (Cohen, 2014). Reed and Levis (2019) highlighted that one of the sources of these challenges for a large number of foreign language learners has been proven to be the formidable task of vocabulary learning, especially mastering correct and error-free pronunciation of the words which are pronounced like learners' mother tongue.

It is widely argued that non-native speakers tend to pronounce the sounds of a second language in a way which is much similar to the sounds of their own mother tongue. By the same token, EFL learners are likely to assimilate the pronunciation of the English sounds into the most similar ones in their own mother tongue, which might lead to some communication breakdown or confusion (Al-Zayed, 2017). Moreover, Morley (1994) asserts that when non-native speakers' pronunciation is heavily affected by their accents, others may find understanding them too difficult or rather impossible; hence, intelligibility in English pronunciation should be the prime goal of every speaker in conversations (Scovel, 1988). Based on this, accurate pronunciation in English conversations is an inseparable part of language learning for EFL learners in non-native contexts.

According to a wealth of recent studies, a high level of competence in pronunciation can be attained when teachers provide the learners with the materials that help them upgrade their level of pronunciation (Fraser, 2000) and set the pronunciation instruction at the very top of the agenda of teaching speaking skills (Morley, 1991). Furthermore, many scholars are of the opinion that learners who do not care about the pronunciation issue are more likely to encounter communication problems (Waniek-Klimczak, Rojczyk, & Porzuszek, 2015). That is, they cannot communicate effectively beyond classroom walls, where they have to interact with others in authentic contexts (Hismanuglu, 2009).

By the emergence of technological innovations such as virtual reality (VR) technologies, it seems possible to create educational conditions for learners who are away from native environments (Lin & Lan, 2015). Virtual reality is considered a new technology with remarkable features that can provide situations where human beings can experience inaccessible environments (Minocha & Tudor, 2017). Studies have already been conducted by using computers (Nami, Marandi, & Sotoudehnama, 2016) and mobile technologies (Alemi, Sarab, & Lari, 2012), many of which have shown that computers could be employed to enhance

language teaching (Yates, 2017) or decrease the learners' problems in language learning.

2. Literature review

In this section of the paper, the authors review previous studies about pronunciation in EFL contexts, and language learning in virtual world.

2.1. Pronunciation in language learning

There are many theoretical and operational definitions for pronunciation, each of which can cover distinct aspects of this component. According to Burgess and Spencer (2000), pronunciation can be defined as a system in which speakers of language use a variety of phonological structures. Based on this, phonological features can make a difference in a target language discourse. In other words, pronunciation is one of the most challengeable issues among language teachers and learners. This important component, which is generally ignored due to lack of access to native teachers or lack of adequate training method, is a serious challenge and in this way many language teachers have not yet been able to use the correct method to improve pronunciation (Freeman, Katz, Gomez, & Burns, 2015). However, many have created new ways to teach this essential part of language with the application of technology (Li & Somlak, 2017).

Moreover, Reed and Levis (2019) explained many aspects of pronunciation for language learners in non-native English environments and found that some learners have many mistakes and errors in their speech production. This study mainly focused on the influence of teachers' first language on teaching pronunciation. To this end, students were divided into two groups (one with native and one with non-native teacher). Both teachers taught with similar pronunciation methods, finally similar results were obtained from both groups, which indicated that the exercises or rules that the teacher considers to improve pronunciation are important and can produce significant results.

Scientific research about the audio-visual aids can be useful for both speech recognition and acceptable pronunciation; therefore, many laboratory studies revealed that analysis of the problematic situations represent the proper use of audio-visual aids. The exact example of this situation can be found in the research of Li (2016), who investigated the behaviour of the participants in difficult situations by using read-aloud and audio-recording without the images of speaker's face in a very ethical situation. Results of the study showed significant differences between two groups and the superior group could recognize the problematic situation and find a

way to overcome those problems. It can be concluded that identifying the problematic situation in pronunciation aspect of the language can be useful for increasing the pronunciation level so that a good teacher should predict the complexity or even problematic situation and help the learner improve his or her pronunciation level.

2.2. Teaching pronunciation through technologies

Pronunciation is construed as an essential component in ESL or EFL curriculum, and pronunciation teaching and learning is perceived as a high-priority objective in the realm of second language education. Nevertheless, generally due to lack of access to native teachers or lack of efficient training methods, it is difficult to obtain performance enhancement. Therefore, many language teachers may not have been able to use the appropriate method to improve pronunciation among learners (Freeman et al, 2015). On the other hand, the past decade has seen rapid advancement of technology in various areas of language learning, together with teaching and pronunciation as one of the most active areas in language research is no exception. Despite the effectiveness of the conventional approach, technology-based methods have tried to improve this component of the language like other topics; therefore, computer programs have succeeded in replacing language labs (Yoshida, 2003). More recently, Dixon and Foster (2018), also emphasize that despite the effectiveness of the traditional methods used to teach and correct pronunciation for teachers and students, the development of technology and the application of modern methods has made significant progress in achieving effective pronunciation teaching and student learning. Subsequently, a novel research agenda has been opened up and, as Li and Somlak (2017) point out, an increasing number of studies have relied on innovative ways to teach this essential part of language with the application of technology.

The use of software programs for teaching and improving pronunciation can be observed in a current study by Cruttenden (2014), which mainly focused on using computational methods to give feedback on the pronunciation errors of learners with the aim of bringing pronunciation of the learners to the native model. It has conclusively been shown that the technique can reduce the foreign accents without significantly altering the voice quality characteristics of the foreign speaker. Furthermore, similar attempts have been made to teach pronunciation and phonetics through computer programs to learners. For example, in a study by Li et al. (2015), the Automatic Speech Recognition Tool (ACER) was used to calculate the language of the learners manually and without interference and different feedback was used to correct incoming speech as well as correct spelling mistakes in language learners. Although

such programs are made by human hands, they are so powerful that they can evaluate the variety of dialects and accents and encourage students and teachers to use educational programs (Yoshida, 2003).

Along with the development of computer science as well as software programs in language contexts, linguists and researchers turned their attention towards studying linguistic characteristics, especially the level of the pronunciation of learners, in an entirely separate domain, named Computer Assisted Language learning (CALL) (Nami, Marandi, & Sotodehnama, 2016). For instance, the use of computer tools to detect and correct pronunciation can be seen in the work of Mehrpour, Alavi Shoushtari, and Haghighat Nezhad (2016). In their study, researchers used educational software programs for advanced-level English language learners to help them reduce their incorrect pronunciation affecting English dialects by creating a quasi-experimental design.

In addition to computers and software available today, there are applications on small gadgets like mobile phones and tablets, some of which have tried to contribute to learning and teaching a second language (Yoshida, 2003). As Franco et al. (2010) highlighted, many people are keen to use these programs to improve their second language in their spare time. Hence, researchers and linguists and even teachers use these inclusive mobile-based applications to teach the second language in a fast-growing filed entitled "MALL" or Mobile Assisted Language Learning (Alemi, Sarab, & Lari, 2012).

After the advent of computer software, as well as mobile applications for language teaching and their use to evaluate various functions, researchers and linguists have also succeeded in incorporating humanoid robots into the realm of teaching, in particular the teaching of English as a second language called RALL or Robot-Assisted Language Learning (Aidinlou, Alemi, & Farjami, 2014). In a study conducted by Alemi, Meghdari and Ghazisaedy (2015), the authors used a humanoid robot as a new field toward teaching language to assess the level of anxiety and attitude of about 46 female students in English language classes. Thus, using RALL indicated that the use of a robot as a teacher assistant in the classroom can be very entertaining and enhance learning more effectively. Therefore, in the modern era of technology, as described by Cook (2016), many new techniques which are mainly based on computational methods have been capable of analysing the correctness of pronunciation and making a significant difference in language research.

2.3. Language learning in virtual worlds

The advancement of technology, in particular virtual reality (or virtual reality games), in second language learning and teaching has been observable in the recent years. Concerning this, linguists and language programmers have decided to investigate the role of new technologies like virtual reality to train EFL learners (both children and adult learners) to observe their effect on the language learning process (Fowler et al., 2015). Due to the increasingly rapid advances in virtual reality games, this field has attracted much attention as an effective way of instruction by many scholars such as Chik (2014) who points out that these games have been able to raise the level of learning in the audience for the purpose of teaching English as a second language. Similarly, Tai, Chen, and Tod (2020) proposes that the application of virtual reality-based 3D games increased the ability of learners to learn the second language. More recently, Zhang, Zhang, & Chang (2018) also note the technology of virtual reality exists in simulated games which can be efficient in teaching languages, especially in non-native environments.

In several studies, the importance of virtual reality systems has been described, which can be helpful and illustrate the previous path of research in this field. As an example, in a study conducted by Kröger, Birkholz, Hoffman, and Meng (2010), the learners' facet system was utilized through virtual reality-based computer programs to examine its effectiveness in language acquisition. Based on the results, audiovisual programs using virtual reality technology prove to be effective in teaching a second language and can be a good tool for pronunciation instruction and the improvement of the functional language system of different learners. In addition, many of the past studies have indicated an increase in the level of motivation among participants who use virtual reality and virtual characters and robots (Shabani, & Alipoor, 2017; Tai, Chen, & Tod, 2020). In these studies, the necessity of virtual reality has been estimated in the level of motivation and language learning of individuals in learning and it has been proven to play a key role in interactions and communications among participants.

Furthermore, virtual reality technology is not limited to using computer programs or large-scale simulations only. Many virtual reality situations have been exploited to a lesser extent, especially in the size and performance of mobile phones, from which surprising results have been reported. One of these examples was the study of Chiu (2017), which depicted the influence of virtual reality in the dimensions of mobile phones on language teaching. Through game-based learning, the author attempted to investigate the influence of virtual reality-based

games on language teaching. The results confirmed that educational-based games with the use of virtual reality could increase the level of education in the second language.

Virtual reality has also been analyzed in a completely Iranian classroom environment; for example, Rahimi, Golshan, and Mohebi (2014) attempted to examine the role of virtual reality in linguistic aspects, such as technical and personal as well as pedagogical language. The findings provided evidence that the use of virtual reality technology in Iranian environments had a positive effect and many students were willing to study and learn through these technologies.

As evidenced from past research on the main variables of the present study, namely pronunciation, games and virtual reality, numerous investigations have been conducted to address various aspects of language teaching in a virtual world. Yet, few reports have been found so far on the role of educational applications of virtual reality on L2 pronunciation as an effective competence. Hence, the main aim of the current study is to focus on untapped areas to explore the potential of virtual reality game and its suitability as a medium for L2 pronunciation training in a non-native context of language learning.

3. Methodology

3.1. The aim of the study

Based on the information provided in the previous section, further research in the area of technology application, especially virtual reality technologies in language teaching and learning, is of prime importance to understand if virtual reality can facilitate learning and whether it has any effect on learners' pronunciation to help them become further aware of correct pronunciation of words and sentences in verbal communication in non-native as well as native contexts. To address this issue and propel research in this area, the present study focused on the following research question: Does Virtual Reality Assisted Pronunciation Training (VRAPT) have any significant impact on the pronunciation of young EFL learners (from pre-test to post-test)?

3.2. Participants and the research context

Eighteen EFL learners (boys and girls equally) aged from 6 to 12 years through convenience sampling were invited to participate in this study with the help of the Social Robotic

Laboratory at Sharif University of Technology (SUT) in Tehran, Iran through a public and promotional call as an advertisement poster.

3.3. Design and procedure

This research is a single-group study that adopted the WOZ design (Wizard of OZ conducted by Kelley, 1980) too wherein a researcher (a wizard), in a laboratory environment, simulates the behaviours of a theoretical computer software and intercepts all actions and behaviours between participants and system. According to Bernsen, Dybjaer, and Dybjaer (1994), WOZ is believed to have the capacity to make complete specification of the systems' behaviours. In this study, this is done with the participants' prior knowledge and with a low-level deceit to manage the participants' expectations and encourage natural behaviours. In order to do this, the teacher estimated all the students' responses and stimulated these behaviours in the game scenarios. In addition to this, both teacher and computer operator controlled all the actions and behaviours of the learners in classroom. Therefore, human-computer interaction, as a pr- planned program, was believed to be autonomous but operated partially by an unseen human being operator. However, it should be noted that pronunciation of the group of participants was assessed prior to and after the classroom training to make it possible for the researcher to compare learners' command of pronunciation before and after the treatment sessions.

3.4. Data collection tools and procedures

Speech Ace (https://www.speechace.com/) and *Pronunciation Check Browser* were the tools used in the study. In order to test the impact of virtual reality games, the information received on the students' pronunciations of words and sentences was gathered through the Speech ace pronunciation check in browser mode (Speech ace LLC, Seattle, USA, based on American English), because this browser can evaluate the level of one's pronunciation and provide feedback to improve this component among language learners. It should be mentioned that *Speech Ace* is used by a variety of users such as learners, teachers, universities and many language specialists. In order to minimize the measurement errors and achieve reliable data from participants, *Speech Ace* browser was selected as the most appropriate instrument to measure the participants' pronunciation level in a computerized manner. It should be noted that this instrument can evaluate the non-native pronunciation (in simple or complicated structures) in comparison with native speaker's pronunciation. Language learners can repeat and record his/her voice in this browser to check the native-like pronunciation. After that, this uploaded

voice is checked through the computerized process of this browser. At the final stage, the percentage of native-like pronunciation is shown for the learner.

On the other hand, the items of the tests were two categories of short vowels (see Appendix A). The reason of choosing two categories of vowels /ɪ/ and /i/ and vowels /ʊ/ and /u/ was that those sounds are the typical cases of a fossilized pronunciation error among Iranian EFL learners. In order to get the information on pronunciation of the participants, the percentage of native-like pronunciation was shown for the learner gained for all items. The maximum point for these items was 10 for both pre-test and post-test. For example, students' scores were calculated according to the percentage of accuracy of their efforts (see Appendix B for average maximum scores and average minimum scores). One full point was given for each item upon the performance of a percentage of accuracy up to 100%. Therefore, for each item, low performance (0 to 30%) was calculated from 0.00 to 0.30; average performance (30 to 50%) from 0.30 to 0.50, medium-high from 0.50 to 0.70 (50 to 70%) and very successful achievements from 0.70 to one full score (70 to 100%). All items could be repeated just one time.

A simulated game implementing the virtual reality technology was developed for use during classroom training. The game was created and animated in 10 episodes with storylines suitable for young learners whose age ranged from 6 to 12 years old. The stories offered in this section were designed in a way to be compatible with VR devices and help the learners feel comfortable about navigating around the virtual environment. To achieve more unity, the scenarios and stories of the games were designed and written by the researchers based on the mentioned vowels in simple sentences using VR technology (see Appendix D). It should be noted that the Robotics team of Sharif University of Technology was responsible for its graphic design.

During the 10 episodes, the learner got engaged through virtual glasses in various conversations in a variety of situations such as food ordering, shopping for items of clothing and familiarity with different occupations which included vowels /ɪ/ and /i/ and vowels /ʊ/ and /u/ in simple sentences. After each teaching situation, the robot asked questions and knowledge responses are anticipated. After playing the game, the learner came to the stream and could receive proper training. The whole process was monitored by the teacher and a game design specialist. All learners' behaviours and performances were recorded by virtual reality cameras.

The researchers of the study conducted the following steps in the process of data collection:

Pre-test

At the beginning stage of the study, the pronunciation of vowels /ɪ/ and /i/ and vowels /ʊ/ and /u/ in 28 simple words (see Appendix A) were checked among participants. Based on the percentages of native-like pronunciation, the level of participants was determined in the software; this measurement could help the researchers to design an appropriate game for the participants of the study. Therefore, the proficiency level of learners was considered in game design.

VRAPT Class

Throughout the treatment phase, in 10 sessions of ninety-minute-long, students were instructed by the use of a game which was designed for the purpose of training. At the beginning of each session, new topics were taught by the teacher. Then students used virtual reality glasses to play virtual reality games. Within 10 sessions, learners received treatment on a diverse range of subjects such as hobbies, colours, fruits, jobs, sports, body parts, toys, animals, foods, and birthday parties. All of these focused on pronunciation aspects of the English language and each scenario was specifically designed and created in a fully 3D environment (see Appendix C).

Post-test

At the end of the sessions, the level of participants' pronunciation was checked again as a post-test through the *Speech Ace* browser to see the improvement of the learners.

4. Findings and discussion

To investigate whether VRAPT has any significant impact on the English language pronunciation of young EFL learners from pre-test to post-test, 10 sessions of virtual reality trainings were administered. At the end, descriptive statistics were calculated. As shown in Table 1, students in the post-test ($M = 6.01$, $SD = 1.08$) performed better compared to their performance in the pre-test ($M = 3.64$, $SD = .81$).

Table 1**.** Descriptive statistics of two testing times of VRAPT (N=18)

		Mean	N	Std. Deviation	Std. Error Mean
VRAPT	Pre-test	3.64	18.00	0.81	0.19
	post-test	6.01	18.00	1.08	0.25

Moreover, the paired samples t-tests was run (Table 2) to compare pronunciation scores of young EFL learners before and after the virtual reality treatment sessions. It was demonstrated that there was a statistically significant difference between students' performances in the pre-test and post-test, t (17) = -13.41, p = .00, with the Cohen's effect size value being 2.47, which can be considered as a very high effect size. Hence, the results of the current study shed light on the efficiency of VRALL in the enhancement of pronunciation skills in young EFL learners, particularly in the case of the vowels /ɪ/ and /i/ and vowels /ʊ/ and /u/).

Table 2. Paired samples t-test

	Paired Differences						
			95% Confidence Interval of the Difference				**Sig. (2-tailed)**
	Mean	**Std. Deviation**	**Lower**	**Upper**	**t**	**df**	
Pre-test and post-test	-2.37	.75	-2.75	-2.00	-13.41	17.00	.00

The analysis of the results suggested that the utilization of simulated games has a statistically significant effect on the pronunciation skills of language learners. In other words, considering the necessity of verbal interaction for improving the pronunciation level of learners, virtual reality was utilized as a suitable tool to enhance English pronunciation of young Iranian EFL students. In the following section, these results have been discussed in light of the question posed earlier.

By comparing the outcome of the current research with the results of the reports mentioned earlier, it becomes evident that the finding is consistent with certain previously conducted research. For instance, it corresponds to the results of the previous report by Alemi, Sarab and Lari (2012), showing that the improvement in technology-based group treated through MALL was much higher than in the traditional group; the result of the delayed post-test also demonstrated that the experimental group performed better on vocabulary retention compared to the one taught with the dictionary. Hence, it can be mentioned that VRAPT classroom's performance can be in line with MALL group's performance in the case of the implementation of technology tools in the EFL context.

In addition, the findings of this study are consistent with those of previous reports by Aidinlou, Alemi, Farjami and Makhdoumi (2014), which proposed complete viewpoints of the theoretical rationale and frameworks of application of robots, instructional inter-faces like CALL, MALL, m-learning, r-learning along with their instructional roles, educational activities and related research and findings. In line with the reports of the mentioned study, VRAPT can also be counted as an instructional tool to improve the language proficiency of EFL learners, especially in pronunciation skills.

Moreover, the outcome of the analysis performed by Alemi, Meghdari, and Ghazisaedy (2015) ensured that the students in the RALL group had great fun in the learning process which helped them boost their motivation and consequently facilitated the process of learning in the long run. Similarly, games in virtual reality had the potency to inspire and motivate the participants and keep them engaged throughout the training sessions. Tseng and Schmitt (2008) also maintained that motivated learners can have better performance or better pronunciation in their language learning.

Furthermore, Cruz-Neira et al. (1993) highlight that some elements of virtual games like interactivity, rules, goals, challenge, risk, fantasy, curiosity, and control can serve as a strong impetus to spark up motivation and keep the learners attentive and motivated. By the same token, it could be argued that, as evidenced by the current study, working in a virtual world by means of VR game-based activities raised and maintained the students' motivation and contributed to investing more attention in mastering pronunciation.

The present finding also supports Alemi's (2010) study which made an attempt to investigate the role of word games in developing learners' vocabulary. To this end, an experiment using a variety of vocabulary games was conducted and its results confirmed that word games make a significant contribution to expanding learners' vocabulary. According to this study, VRAPT can be mentioned as an educational game which impacts the pronunciation of young EFL learners and enhances the language knowledge of learners.

Furthermore, the finding from the present study agrees relatively well with previous studies on the effect of CALL on the improvement in pronunciation of ESL students which can have similar results in the case of VRAPT (Mikropoulos & Natsis, 2011; Zhang, Zhang, & Chang, 2018; Zhao, 2003). It should be mentioned that the participants of VRAPT had better performance from pre-test to post- test. Thus, it can be argued that VRAPT had a similar effect as CALL on the pronunciation skills of EFL learners.

Other studies (e.g., Eskenazi, 1999) focused on various CALL-based technologies that provide ESL students with immediate feedback on their pronunciation, which can also be considered an advantage in VRAPT. Eskenazi (1999) acknowledges that pronunciation teaching is considered as a time-consuming task for EFL/ESL teachers and instructors. Consequently, EFL/ESL students may miss valuable feedback on pronunciation skills from the instructor. Therefore, it can be concluded that using new VR technologies facilitates receiving feedback for EFL learners and improves their pronunciation, which is in agreement with the results of the present study.

In light of the findings of the study by Ong'onda, Anashia, and Muindi (2016), it can be suggested that computerized instruction is more functional in teaching and learning of English vowels and consonants. The result of the present study can be consistent with the study of CAPT (Computer Assisted Pronunciation Training) in which the test group (the ones using the software) scored significantly higher on pronunciation and fluency ratings. Thus, embedding technologies such as CAPT program and VR games in classrooms effectively serve the learners with opportunities to practice a difficult sound on their own, monitor their pronunciation and familiarize themselves with new sentence patterns (Khoshsima, Saed, & Moradi, 2017).

Moreover, the efficiency of VR games could be attributed to such factors as 'authenticity' and 'repetition'. That is, the games provide a context in which the participants hear the correct pronunciation of linguistic forms in genuine contexts. Hence, they find associating form and meaning easier. As noted by Vahdat and Behbahani (2013) as well as Lawrence and Ahmed (2020), virtual games can establish an authentic situation in which pictures, sounds and graphics serve as strong stimuli for learners to hear and feel the sounds in a meaningful context. Besides, the games expose the learners to the same piece of language on different occasions which has proved to be conducive to mastering a language. This repetitive exposure, in fact, leaves a very strong trace on one's memory and makes it more likely for learners to retain and recall different aspects of words like pronunciation (Cruttenden, 2014).

Yet, another possible reason for substantial positive changes in pronunciation performance of learners is a result of the fact that the VR games can tap into two coding systems, as proposed by 'dual coding' theory (Paivio & Clark, 2006). This theory is premised on the tenet that cognition comprises two coding subsystems, namely 'verbal' and 'imagery' or non-verbal coding. Recall and retention are enhanced when both coding sub-systems work hand in hand. Accordingly, it can be purported that the VR games can create a context in which sound and meaning of the words are simultaneously presented and hence makes it for learners

easier to learn and remember meaning associations. This function of VR games has been also underscored by other researchers (e.g. Yueting, Varasrin, and Prabjandee, 2016).

5. Conclusion

The present study aimed to investigate and explore the possible effect of technological advances, especially the use of virtual reality tools, on developing the pronunciation skills of Iranian young EFL learners. When regarding the research question; *Does VRAPT have any significant impact on the pronunciation of young EFL learners (from pre-test to post-test),* the results from the two testing times revealed that there was a significant difference between the performance of learners before and after the VRAPT training sessions. In other words, students made significant progress from the pre-test to the post-test in terms of their pronunciation.

This efficiency could be attributed to the games in virtual reality which have the potency to inspire and motivate the participants, keep them engaged and provide them with feedback. For these reasons, the participants could have been engaged more so as to invest more in playing more attentively, which means further exposure to samples of language and hence mastering pronunciation.

It should be noted that stakeholders in the language teaching field such as teachers, language institute administrators, and teacher trainers can benefit from this study. This study proposes that using VR games can be a viable strategy to help language learners overcome pronunciation difficulties and develop an acceptable competence in pronunciation. In other words, the results of the study showed that technology devices such as virtual reality can help learners to improve their language learning at a particular pronunciation level.

In addition to all the above, materials developers can use results of this study to design their educational materials based on the new technologies and new games in this area which is more beneficial to EFL learners.

This research has also offered certain recommendations for how research and practice in the field of VRAPT may be carried out in order to be of optimum benefit to language teachers and instructors who desire to implement virtual reality technology tools successfully within their EFL classrooms.

For further work, the extension of the study reported here can be proposed in two directions. First, the participants in the current study were a cohort of young language learners, so other studies should be conducted with learners at different age and with different background knowledge in language learning. Next, as the present study analysed students'

progress in the pronunciation of vowels /ɪ/ and /i/ and vowels /ʊ/ and /u/ in simple sentences and short conversations by using VR technologies, further research can be done on other phonological areas (vowels, consonants, diphthongs and trip thongs and also consonant clusters of the English language) in more complex and difficult words and sentences.

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Appendix A. Vowels of the Study

Vowels /ɪ/ and /i/	Vowels /ʊ/ and /u/
Policeman	Could
Fish	Fruit
Teacher	Cook
Fifty	Too
People	Bull
Window	You
He	Would
It's	Juice
Cheap	Good
Women	Blue
Tree	Full
Six	Soup
Green	Woman
	Beautiful
	Should

Appendix B. Participants' scores in *Speech Ace*

Experimental Group	Age	Gender	English Proficiency	Pre-test	Post-test
1	10	M	Low Intermediate	3.2	5.7
2	12	M	Low Intermediate	3.5	6.3
3	9	M	Low Intermediate	2.7	5.4
4	7	M	Low Intermediate	3.6	4.8
5	10	M	Low Intermediate	4.1	6.1
6	10	M	Low Intermediate	2.9	5.4
7	6	F	Low Intermediate	2.6	4.3
8	10	M	Low Intermediate	4.2	6.8
9	11	F	Low Intermediate	4.1	7.2
10	9	M	Low Intermediate	3.4	5.6
11	8	F	Low Intermediate	3.5	4.8
12	6	F	Low Intermediate	2.7	5.3
13	6	M	Low Intermediate	3.1	5.9
14	7	F	Low Intermediate	3.2	6.1

15	8	F	Low Intermediate	4.2	7.8
16	8	F	Low Intermediate	4.1	7.1
17	12	F	Low Intermediate	5.1	8.3

Appendix C. *Speech Ace* user environment
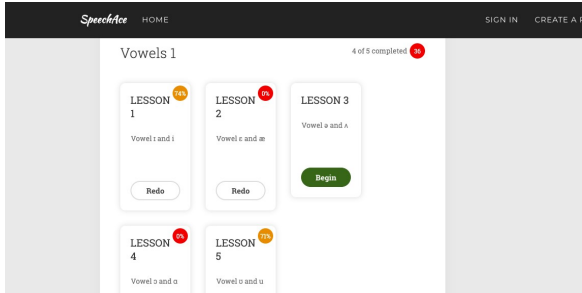
Figure 1. *Speech Ace* vowel categories
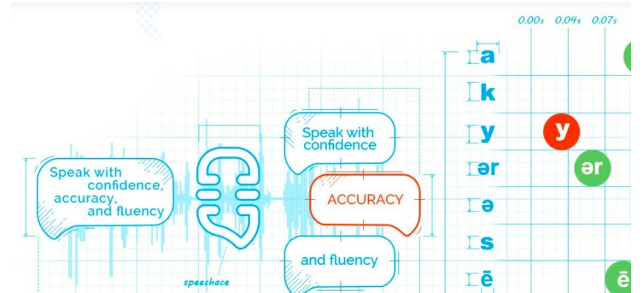
Figure 2. Scoring procedures of *Speech Ace* browser
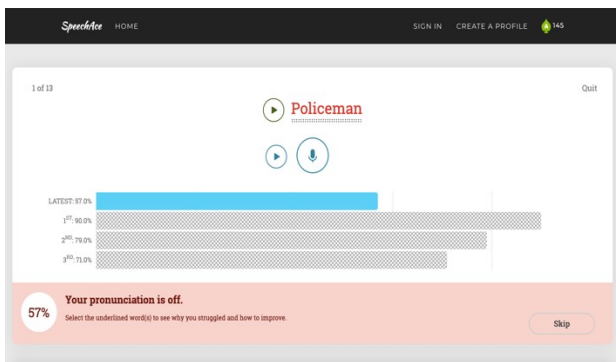
Figure 3. *Speech Ace* percentage in low mode
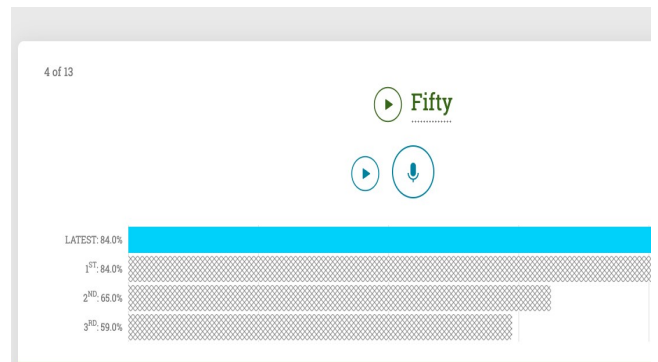
Figure 4. *Speech Ace* percentage in high mode

Appendix D: Virtual reality game environment and VRAPT participants

Figure 5. Virtual environment for colours
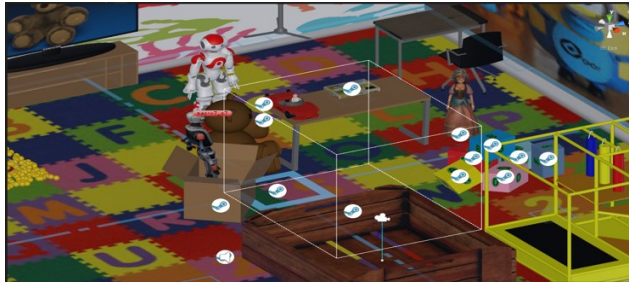
Figure 6. Virtual environment for toys
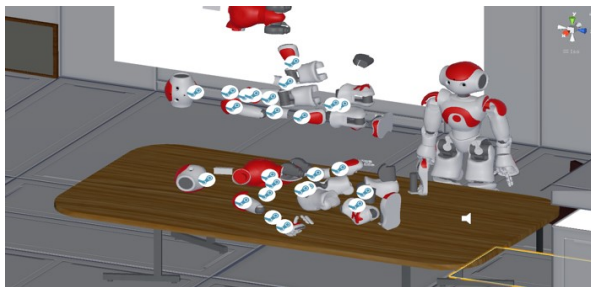
Figure 7. Virtual environment for body
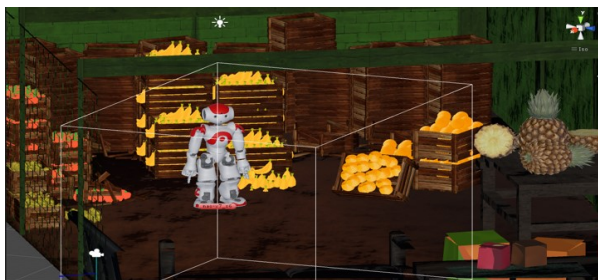
Figure 8. Virtual environment for fruits

Appendix E. Sample game scenarios

Game Scenario - Greeting

The game starts with the image of the airplane window. It's clear from the planet. With this, he finds himself out of the ground. When he looks to the left, he sees the surface of the new planet. Its surface is similar to the surface of Mars. Nima's robot comes close. Students can see the globe and the sun on the other side by turning the head. The game begins with the design of a sentence from the robot:

The robot asks: (LOOKING AROUND ANIMATION)

Hello! (BYE POINT ANIMATION). My name is Nima (POINTING TO SELF ANIMATION). What is your name (POINTING ANIMATION OR THINKING ANIMATION)

The student is expected to respond to his name. Acceptable answer for Nima

My name is ...... If the answer was not given to the child or the answer was short (only the name implied), Robot says: (DEFEATED ANIMATION) Aha !! Say: My name is ....

The student should be able to repeat the sentence. If the answer is not received or incomplete, the sentence is repeated.

If the answer is correct from the child, the robot says.

Great! (HIP HOP DANCING)

The robot asks:

How are you say I'm fine. (AGREEING ANIMATION)

The student is expected to repeat the sentence. If it does not repeat or be short, the sentence is repeated again to hear an acceptable answer from the child's side.

If the answer is correct, the robot says.

I'm 10 years old. How old are you (LAUGHING ANIMATION)

If the answer was not given or was incomplete, the sentence repeated again.

(LOSER ANIMATION)

If the answer is correct, the robot says:

Excellent!!!! (AGREEING ANIMATION)

The robot asks:

I am an English Teacher! What do you do (THINKING ANIMATION)

The student goes to tell

I am a student

If the answer is correct, the robot says

Great! (PRAYING ANIMATION OR SAMBA DANCING)

If the answer is wrong, the robot says.

I am a student, Repeat after me, I am a student. (POINTING ANIMATION)

The student is expected to repeat the sentence. If the robot repeats it correctly, the robot says

Bravo! (SAMBA DANCING)

If the answer is false, the sentence is repeated to get the correct answer.

The robot says:

Nice to meet you! (PRAYING ANIMATION)

The student is expected to give her a response

Acceptable student response:

Nice to meet you too!

If the answer was wrong. The robot says

(LOSER ANIMATION)

You can say: Nice to meet you too! Repeat that! Nice to meet you too!

The student is expected to repeat the sentence. If it was true, the robot would hit him. If the mistake is repeated, the sentence is repeated again to get the correct answer.

VOCABULARY LEARNING IN THE MOBILE-ASSISTED FLIPPED CLASSROOM IN AN IRANIAN EFL CONTEXT

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Abstract

The emergence of flipped instruction has provided new opportunities to improve English language learning. The present study attempted to investigate the effects of flipped learning strategy on enhancing the vocabulary knowledge of Iranian EFL learners. To this end, the authors assigned 26 learners from an English institute to the flipped and conventional groups. They adopted a two-group counterbalanced design in this research. In the flipped classroom, the teacher posted the course materials via *Telegram* in advance to the class. Inside the classroom, the participants engaged in various peer and group activities including pre-communicative sentence arrangement, communicative tasks, pair, and group discussion, role-play and storytelling. The data were from multiple data sources including a vocabulary knowledge test, a student-recorded portfolio and interviews. The results revealed that the participants performed better in the conventional classroom than the flipped learning classroom. However, they did not have positive attitudes toward inverted learning. The authors presented insights into the impacts of flipped instruction on the quality of vocabulary learning and offered recommendations and implications for future practice.

Keywords: flipped learning; mobile-assisted language learning; technology

1. Introduction

In recent years, educators have invested considerable efforts in incorporating digital technologies into EFL pedagogy to invigorate students in new ways. Studies revealed that in traditional methods, students get involved in receptive activities instead of productive ones in English vocabulary acquisition due to exam-oriented instruction, heavy reliance on teachers, inadequate, authentic, and meaningful learning experiences (Li, 2010). Similarly, teachers rely heavily on traditional methods of teaching in Iran. They encourage learners to carry bilingual

dictionaries at school, and they spend considerable time explaining and analyzing the vocabularies in isolation and translating them to their native language. Consequently, instructors and students rarely develop knowledge to use words for communicative purposes inside and outside the classroom.

These problems strongly suggest that we need to enforce an urgent shift in English language teaching methodology and develop new strategies (Toto & Nguyen, 2009). Therefore, educators utilized innovative models such as flipped learning (Strayer, 2012; Bishop & Verleger, 2013), which have evolved parallel to advancements in computer and mobile device technology to teach the English language. Supposedly, the incorporation of technology into the flipped classroom provides students with opportunities to prepare out of the class and engage in active learning within the classroom to enhance language knowledge (Fulton, 2012). In this study, we sought to explore the mobile assisted flipped classroom in the teaching-learning process.

2. Literature review

2.1. Characteristics of a flipped classroom

According to Bergmann & Sams (2014), in a flipped-classroom approach students perform classwork at home and practice homework at school. The flipped approach reverses inside and outside class activities; the learners study theoretical parts of the lesson via presentations and online videos in advance, reflect on the content and form questions (Kim, Khera, & Getman, 2014). Inside the classroom, teachers create an interactive environment for students to work in pairs and groups, engage in problem-solving, discussion, and high-level thinking skills (O'Flaherty & Phillips, 2015). Because instruction takes different forms outside of the classroom, students do not limit themselves to class-time constraints. Instructors deliver lesson content outside the classroom so that they guide students to engage in various collaborative activities and co-construct knowledge with their teachers and peers inside the classroom. This allows them to learn actively, increase motivation, and facilitate deeper levels of understanding.

As a touchstone of the flipped classroom, teachers adjust learning to students' level and needs in order to stimulate engagement and interaction. Since students do not perform at the same level, instructors provide adjusted and individualized instruction and feedback. Teachers play contrasting roles in the inverted learning and conventional classroom. They are the only valid provider of knowledge so that students are passive listeners in the traditional classrooms.

On the contrary, in the flipped model, they are mediators of knowledge and require learners to manage their learning from the beginning. They intentionally provide students with the lesson content in advance to encourage them reflect on their learning and develop deep understanding about the subject matter. Consequently, they have ample opportunities to engage in various tasks, and put to practice their knowledge at school. However, in this approach, instructors need to develop certain skills such as familiarity with technology, renewal of classroom management, and designing flexible syllabus (Flipped Learning Network, 2014).

2.2. Previous studies into flipped learning

The results of many studies indicated that the flipped model excels in foreign language learning classrooms. McLaughlin and Rhoney (2015) found that the students who used the online tools scored higher on their final exam. Hung (2015) concluded that students in the structured, as well as semi-structured flipped classes, outperformed the learners in the traditional classroom. Many studies so far illustrated that the assimilation of technology into the flipped classroom has been beneficial. For example, Zhang (2015) employed some teacher-created videos in his flipped business English course. Eventually, the findings revealed the students' vocabulary gain and satisfaction with the flipped learning. Similarly, the finding of the studies by Sung (2015) and Yang (2017) showed the learners' positive opinions on the inverted classroom.

Lin et al. (2018) compared the students' performance in two modes of teaching: a combination of the flipped classroom and peer evaluation via mobile devices and traditional instruction. The findings revealed that students in the former performed better than in the latter. Also, Wang (2016) studied the use of mobile devices in a flipped learning classroom in contrast with a traditional classroom among a group of eleventh graders. The results revealed that learners in the flipped classroom improved their performance. Mu (2017) investigated the effects of mobile-assisted flipped instruction on the learners' oral proficiency. The findings indicated that the participants enhanced their oral proficiency significantly. They reported affordance of more communication opportunities, sufficient collaborations, and flexible self-direction. Another study by Hsieh et al. (2017) revealed that the participants using LINE in an oral classroom developed positive attitudes and improved their idiomatic knowledge considerably. Additionally, Hwang et al. (2015) made a critical analysis of incorporating mobile technology into the flipped learning mode. They believed the mobile-assisted language approach facilitated students' learning in both physical and social contexts.

However, not all studies reported positive attitudes about inverted classroom. For example, Webb, Doman, and Pusey (2014) reported that the majority of subjects in the flipped learning preferred in-class explanation rather than video lectures. Also, teachers agreed that they had difficulty implementing the model properly. Other studies demonstrated that flipped learning did not enhance participants' language knowledge. Fraga and Harmon (2015) concluded that flipped classroom instruction did not affect undergraduate students' word study exam scores. Also, Alhamami (2019) investigated the usefulness of flipped language learning in a reading course. The findings indicated that the face-to-face traditional and flipped classroom can equally enhance the reading skill of level-one students. Moreover, Mori et al. (2016) carried out a study to investigate the use of the flipped approach in comparison to conventional teaching in Chinese character learning. The findings indicated that introductory participants in the flipped model outperformed those in the conventional one whereas statistics analysis revealed no significant improvement for the intermediate students. Finally, Oh (2017) studied the effects of peer flipped teaching strategy on engagement and achievement of Freshman College students with limited proficiency. Statistically, the traditional and flipped classrooms were the same.

2.3. Mobile-assisted language learning

The assimilation of mobile technology into language learning offers numerous advantages to EFL pedagogy. Innovative tools have created new opportunities to acquire language beyond the walls of classroom. Mobile-learning benefits language pedagogy since it is adaptable to participants' learning styles, is easily accessible, and improves interaction between instructors and students (Stockwell, 2010). The mobile devices created learning opportunities for EFL/ESL learners to acquire various aspects of language at different levels. Increasingly, educators have incorporated vocabulary into CALL and MALL programs (e.g., Dodigovic, 2005; Houser & Thornton, 2006). Consequently, researchers developed some programs such as multimedia lexical learning collections and tools consisting of written texts and electronic glosses (Qing Ma & Kelly, 2006) to enhance vocabulary knowledge.

Ou-Yang and Wu (2017) demonstrated that mobile-assisted language learning is a flexible process. They added that learners' language proficiency, their learning style, as well as learning behavior affect the process of language acquisition. To see the relationship between mobile assisted language learning and vocabulary achievement, Lin and Yu (2016) used the presentation modes of text alone, text and image, text and audio, and a mix of all these modes.

The study showed the students who used the audio mode increased their vocabulary proficiency.

Recently, the role of MALL is growing among Iranian educators and researchers. They assimilated vocabulary, grammar, speaking and listening programs with mobile learning. Jafari and Chalak (2016) investigated the use of *WhatsApp* in a vocabulary learning program among Iranian school learners. The results proved that regular and technology-supported classrooms did not differ significantly. Additionally, Fotouhi-Ghazvini et al. (2009) demonstrated that the students who used mobile assisted language learning games developed positive attitudes about English learning. Also, Kabiri and Khatibi (2013) reported that the majority of Iranian EFL students learn vocabulary through SMS. Finally, other studies such as Azar and Nassiri (2014) and Baleghizadeh and Oladrostam (2010) suggested that EFL learners could use the potential of MALL to improve their listening comprehension and grammatical accuracy.

3. Methodology

3.1. The aims

This study aims at answering these research questions:

1. Does the flipped learning strategy improve the vocabulary knowledge of students?
2. How do learners perceive the flipped learning experience?

To achieve the goal, the current study applied the concept of flipping strategy to groups learning English for about twelve weeks. The same teacher instructed students in both the conventional and flipped classrooms. A counterbalanced design was applied to find out the effect of flipping strategy on participants' vocabulary knowledge so that we could nullify the effect of treatment order or other factors such as tiredness that might affect the results. At the outset, the teacher divided learners into 5 groups in each of the classes. During the first five weeks, he applied the non-flip method to class F1 and the flipped strategy to class F2. After the midterm, during the next 5 weeks, the instructor reversed the teaching methods. He implemented the flipping strategy in class F1 and the conventional method in class F2.

3.2. Participants and context

In the present study, the participants were 26 intermediate female learners aged between 16 and 25. The teacher assigned 14 students to one group (F1) and 12 learners to the second (F2). All of them were native Kurdish speakers attending private English institutes for almost 3 years.

The learners in both groups had been studying the *Interchange* book series before arriving at the intermediate level.

3.3. Design and procedure

3.3.1. Instructional procedure

The researchers chose the *Telegram* application for online interaction between teachers and participants of the study. They could easily post messages, audio, video, and other files via the application, which is available for IOS and Android operating systems. Both teachers and learners knew how to work with this application. In the current study, they also chose another tool named *Socrative*, which is a formative assessment tool allowing teachers and learners to evaluate participants' involvement, understanding, and progress in real-time in class via quizzes students receive on their own smartphone. Quizzes can be true/false, multiple-choice, short answers, or open-ended questions. This application is accessed via a website or app, with separate apps for teachers and students. After creating a free account, teachers enter a public room automatically. The room is a virtual meeting place where they can create, search for, copy, and edit their quizzes. They can observe all learners' answers immediately, identify their problems, and then offer feedback to them.

In the flipped classroom, the learners listened to an audio lecture or read a PowerPoint presentation explaining what they must do at home. This instructed them to prepare for the regular weekly and end of the term quizzes. Additionally, the audio delivered through the *Telegram* application introduced the topics for classroom activities and discussion one day before the class. For example, if the topic was 'family', students needed preparation to discuss concepts of parents-children relationship, divorce, and adoption. Importantly, only the participants in the flipped classroom had access to the audio in advance. The topics comprised ' an introduction to a lecture', 'chatting about a series', 'joining a gym', 'a design presentation', and 'a film review'.

Learners had to listen to the audio in order to guess the meaning from context, check the pronunciation and spelling of new words, find synonyms and antonyms for unknown vocabulary items, collocation, and their grammatical function to become comfortable with their uses. Pre-class activities aimed to engage learners in lower-level thinking skills of '"remembering, understanding, and applying"' (Anderson et al., 2001). The students had to keep a portfolio of their works on their mobile devices during the pre-class stage. Since the learners

had worked on the content, the teacher did not give lecture about the lesson anymore in the classroom.

During class time, students had to take part in various interactive activities to demonstrate what they had learned at home. The class began with learners' questions about the problems they had noticed at home. Then, inside the classroom, the teacher selected an adaptation of the task model proposed by Jane (1996) and Littlewood (2004) to engage them in various pre-communicative sentence arrangement, communicative activities, pair and group discussion, role-play, and storytelling. The researchers used these tasks to tap into learners' "higher-order thinking skills" (Anderson et al., 2001). In the conventional model, the teacher played the audio and gave elaborate explanations about the lesson inside the classroom. He explained grammar, unknown vocabulary items, and answered some comprehension questions related to the topic. Then, the teacher replayed the audio, paused after each statement, and had the students repeat at least one sentence. Next, the teacher checked the pronunciation and comprehension of the whole audio and the meaning of certain words. The learners in the control group completed weekly and end-of-the-term vocabulary quizzes, which were the same as those participants received in the flipped classroom.

3.3.2 Testing procedure

To measure the participants' vocabulary knowledge in both classes, the same pre- and post-tests consisting of 40 multiple-choice lexical items based on the lesson content were administered. Assessment of participants included off-line and on-line activities. First, to ensure the participants had completed the assigned work, they had to record a summary of the audio files and deliver it to the teacher. It fulfilled two purposes: they needed to use vocabulary and concepts they had learned about the topic, and the teacher could use it to assess their pronunciation. Second, the participants had to take online quizzes in the forms we described above via the *Socrative* application. Finally, a flipped learning experience questionnaire consisting of 20 statements was administered to both classes.

3.4. Data collection tools and procedures

3.4.1. Vocabulary test and weekly quizzes

The authors administered a pre- and post-test consisting of 40 multiple-choice items to measure the lexical knowledge of the flipped and conventional groups. 80 vocabulary items were

developed based on the lesson content. Additionally, the content of the tests was examined by two teachers, and its reliability test was measured to be 0.72. Finally, the test was split into halves based on odd and even numbers for pre-test and post-tests. Additionally, weekly quizzes which consisted of multiple-choice tests and short-answer questions were used in the study.

3.4.2. Interview and questionnaire

The interviews included two open-ended questions:

1. What are your impressions of the flipped and conventional learning experience?
2. What are your attitudes about using technology in the flipped classroom?

The questionnaire, on the other hand, consisted of 20 statements on a five-point Likert scale from strongly agree to strongly disagree.

4. Findings and discussion

Mixed model ANOVA was used to determine whether the flipped approach or traditional method was more effective on learners' vocabulary achievement. With regard to their post-test, the participants in the traditional class scored higher (0.80, $p \leq 0.001$) than those in the flipped context (Table 2). Table 1 presents descriptive statistics of the final score and teaching method.

Table 1. Descriptive statistics of final score and teaching methods

				95% Confidence Interval	
Method	Mean	Std. error.	Df	Lower Bound	Upper Bound
Traditional	14.159	.052	25.000	14.052	14.265
Flipped	13.357	.088	25.000	13.176	13.537

The results summarised in Table 2 show that under different teaching methods, participants' post-test scores in the flipped and traditional classrooms were different. Participants in both groups (F1 and F2) scored higher in the traditional class than the flipped one: the mean score was .80 higher than that of the flipped classroom ($p \leq 0.001$).

Table 2. Pairwise comparisons between classes (F1, F2)

(I) method	(J) method	MD	Std. error	df	Sig.	Lower Bound	Upper Bound
						95% Confidence Interval for Difference	
Traditional	Flipped	.802	.078	25	.000	.642	.961
Flipped	Traditional	-.802	.078	25	.000	-.961	-.642

Concerning students' quizzes, the scores of subjects did not differ significantly between flipped and traditional classrooms (Table 3). Table 4 presents descriptive statistics of quiz score and teaching method.

Table 3. Descriptive statistics of quiz score and teaching method

Method	Mean	Std. error.	df	Lower Bound	Upper Bound
				95% Confidence Interval	
Traditional	16.215	.159	50	15.896	16.534
Flipped	16.031	.159	50	15.712	16.350

Table4: Pairwise comparisons between classes (F1, F2)

(I) method	(J) method	Mean	Std. error	df	Sig.	Lower Bound	Upper Bound
						95% Confidence Interval for Difference	
Tradtional	Flipped	.185	.225	50	.415	-.267	.635
Flipped	Tradtional	-.185	.225	50	.415	-636	.267

In our study, contrary to the majority of previous studies, we found that the flipped strategy learning was not more efficient than the non-flipped learning. The learners did not finally develop higher vocabulary knowledge than the regular (conventional) classroom. Results proved that using flipped learning in an Iranian EFL vocabulary class was not beneficial; the participants performed better in the conventional or non-flipped classroom. Concerning the participants' attitudes, the majority of them reported negative attitudes about the flipped classroom. The findings of the present study agreed with results by Alhamami (2019) and Mori

et al. (2016). They also confirmed the findings of Oh (2017) that showed an insignificant difference between the experimental and control groups. However, they contrasted with findings by Kang (2015), and Zhang et al. (2016), who reported that flipped learning enhanced learners' vocabulary achievement. Additionally, the results contrasted with the findings by Azar and Nassiri (2014), Amiryousefi (2017), Chen et al. (2017), and Lin et al. (2015).

Therefore, EFL teachers are advised to be cautious when using the flipped strategy in EFL contexts. Concerning the students' attitudes toward the flipped classroom, the results of the current study were in line with Webb et al. (2014). However, the findings contrasted with Prefume (2015), Haghighi et al. (2018), and Gross et al. (2015). The authors expected better performance in the flipped classroom; however, when learners moved from conventional to the flipped classroom, their scores dropped. Several reasons may account for such findings. Because teachers did not have previous experience with such methods, we think they need to receive special training in terms of appropriately flipping and managing classes. Similarly, they should instruct learners how to practice self-regulated learning within flipped learning context. Some participants reported having difficulty engaging in class activities because they were not prepared to face such a shift in methodology.

Many participants were reluctant to prepare for or participate in class activities because they thought the final score was more important than class engagement. Partly, this is due to their prior learning experiences that prioritize rote memorization and end-of-term score. Unfortunately, our sample had limited access to authentic learning materials or English native speakers, thus, they could have developed deficient knowledge. Also, practicing self-paced learning required theoretical and procedural knowledge as well as appropriate learning strategies which they lacked.

The flipped classroom was designed to study certain instructional materials outside the classroom in order to free up time for learner-learner and instructor-learner interactions. However, some participants commented that they did not know enough about the flipped approach or they did not like learning before class. Moreover, while in the non-flipped classroom class time was designated for learning, in the flipped classroom learners had to decide when and where to study on their own; not all of them succeeded in doing so. Instructors required the participants to keep a record of their activities outside the classroom and take part in online quizzes; meanwhile, they could not guarantee students carried out their responsibilities. As a result, some of them had to sit up class time instead of taking part in group activities and discussions.

The participants argued that the conventional classroom was more helpful because the teacher's explanations inside the class could suffice. Some participants agreed that self-study was not an effective idea. Others reported that flipped learning enhanced the learners' active learning rather than helped them improve their language knowledge. This was aligned with the findings by Haghighi et al. (2018), who reported that EFL learners in the flipped classroom were more active than in the conventional classroom. Some participants commented that "to get higher scores, you need to read the material just inside the class", but the flipped learning did not give them opportunities to read in the classroom. A few of them mentioned that different teaching methods did not necessarily affect their score since everything depended on how hard they studied. They thought online audios or videos were time-consuming, unnecessary, and unhelpful; they either did not listen or spent only brief time with them.

Before our participants had experienced the flipped classroom learning, they were willing to practice self-paced learning, but when the project ended, they had adverse views; they did not regard it useful. The participants in the flipped classroom argued that they favored the traditional method since the pre-class activities were extra work for them. Many learners thought that in-class tasks and activities in the flipped mode were more interesting and lively than pre-class ones but did not lead to vocabulary knowledge. They believed it took them considerable time to perform out-of-class activities and homework in the flipped classroom. They commented that the inverted classroom was fun because they could visit websites and talk to their teacher and classmates hence reduce the feeling of boring and tension.

Technology-based learning will only succeed if learners are in favour of technology use. Amiryousefi (2017) showed that participants usually accept classroom technology. However, only about nine percent of the participants in the current study agreed to recommend learning through technology to a friend. Most were distracted when searching for materials on-line and could not watch videos or listen to audios for the next class. Fifty percent of the learners in the flipped classroom stated they dislike listening to or watching their lessons online in the future because they would not afford the computer and internet expenses. About thirty five percent admitted that they listened to audios or watched the videos in the current study because they were required to do so. Five participants believed learning through audios and videos could improve their vocabulary competence. Ten students commented *Socrative* and *Telegram* were easy and applicable, but they were unwilling to learn English in a way different from their regular classroom. In general, the learners did not favor the flipped classroom.

5. Conclusions

Contrary to many previous studies, our research revealed that the implementation of the mobile-assisted flipped learning did not affect the vocabulary achievement of Iranian EFL learners positively. The participants in the conventional classroom still outperformed their counterparts in the flipped classroom. Although the latter required them to spend considerable time doing assignments, the students in the former performed better. Therefore, certain conclusions and recommendations can be offered. First, teacher training courses should accommodate programs for designing and implementing flipped models. Second, a review of the literature suggested various flipped classroom models, so schools and universities should carry out pilot studies to discover those compatible with the local EFL context. Third, administrators and teachers should seek ways to motivate learners and integrate technology into EFL classes appropriately.

Acknowledgement

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A MOOC REVIEW:

WRITING IN ENGLISH AT UNIVERSITY (WEU)

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1. Introduction

Recent development in MOOCs (Massive Open Online Courses) is one of the most prominent trends of higher education courses online (Baturay, 2015), which promotes learning through flexible participation and open access via web. MOOCs are now being offered by many universities to online learners – including English Language learners – worldwide. A popular MOOC platform – Coursera (n.d.) offers some open access English Language courses – created mainly by reputed universities across the world. Some short and specialization courses are offered for free, but most require a small enrolment fee, with a seven-day free trial. Coursera (n.d.) is currently offering many short and specialization English language courses for communication; career development; business communication; business and entrepreneurship; sales and marketing; grammar and pronunciation; academic purposes; journalism; advance writing; and language teachers. Amongst the courses, I have selected to review *Writing in English at University* (WEU).

2. Description of the course

WEU is intended for those who wish to acquire academic writing skills which are essential (Lea & Street, 1998) for effective communication in university studies, professional life and lifelong learning. Specifically, this course has been designed as a resource for university students who are currently involved in writing assignments or degree projects as well as for students who wish to learn about academic writing in order to prepare for future writing for academic purposes. It is argued that many international university students are yet to develop the academic writing in English skills in English speaking universities but those are teachable (Fell & Lukianova, 2015).

WEU is a four-week online course with approximately four hours of study commitment every week. WEU requires registration to commence and certificates are issued on completion of the course. The main objective of the course is to help understand the conventions of academic writing in English and gain knowledge about its components and benefits. It is called

process writing – a joint writing process in stages by students and teachers (Badger & White, 2000).

WEU consists of four modules: 1. WEU: An introduction; 2. Structuring your text and conveying your argument; 3. Using sources in academic writing; and 4. The writer's toolbox: Editing and proofreading (Coursera, n.d.). Each module has different learning elements (which are given below) including video lectures, readings, quizzes, reflective self-assessment questions, and peer review exercises which involve interaction with other students taking the course.

The topic for week one is "WEU: An introduction" consisting of six components. The first component 'Introduction' includes a video on introduction of academic writing; and readings on course aims, expected workload and working methods used within this course, course structure, course material and the teachers; and the meet and greet discussion prompts. Secondly, 'What is Academic Writing?' component is structured around reading on what academic writing is; a video on what is academic writing; what we mean when we talk about academic writing; readings on general and more discipline-specific aspects of the field of academic writing. It also has a reflective discussion prompt: write something about what and where the student studies, his/her previous experience of academic writing, and reasons for taking this MOOC. The other lessons – interpreting the tasks, the writing process, feedback and peer review, resources for writers – are designed in the same structure included the similar kinds of activities. In the resources for writers' section, exercises are used as online self-improvement exercises (Figure 1):

Figure 1. Online self-improvement exercises

The topic for week two is structuring text and conveying argument in university writing. Following the similar activities and learning design principles as those in Week 1,

the lessons for Week Two incorporate structuring an argument; research questions and thesis statements; structuring a text around a three-part essay; structuring information; structuring paragraphs; IMRaD (Introduction-Methods-Results-Discussion); CARS: Creating a research space; and abstract writing. As an activity for research questions and thesis statements, a discussion forum is used to participate in a peer discussion. In the forum, the teacher facilitator and the students collaboratively participate in the activity as below (Figure 2).They are also prompted to look at their peers' responses about research questions and thesis statements, and provide feedback for those.
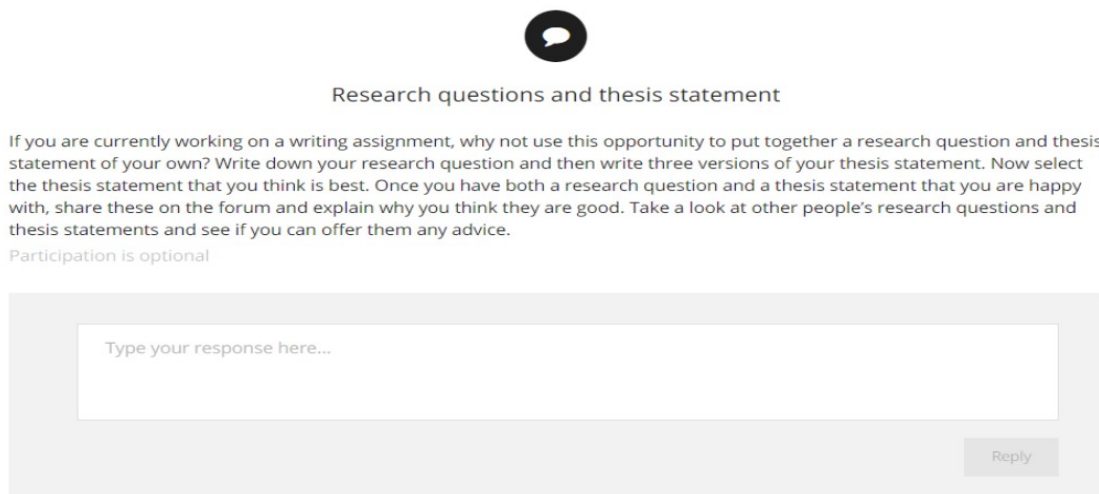
Figure 2. Peer Discussion Forum

The discussion forums are not only used for individual activities every week but for students' questions, too. Any student can post the question in the forum and participate in the discussion with her/his peers and instructor. Example of the weekly forum for questions and answers are is shown in Figure 3.
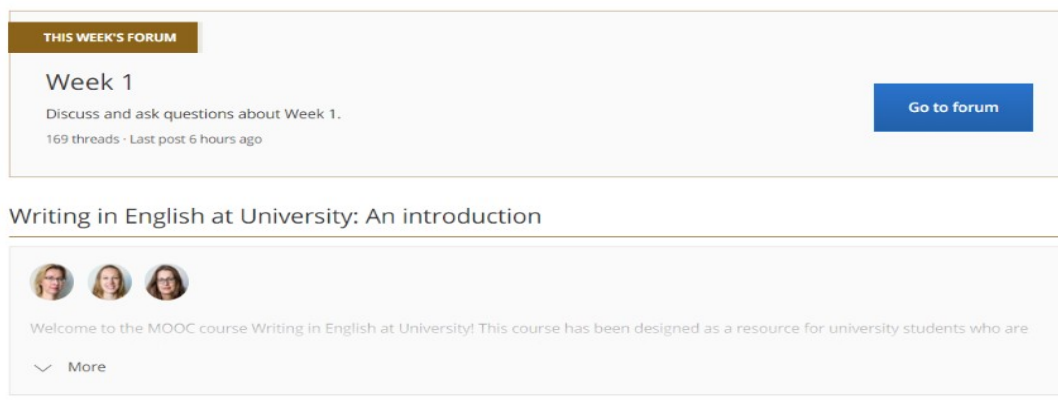
Figure 3. A sample of weekly forum

They can also search the topic of their interest or any discussion topic covered in the

course in the search buttons for weekly discussions forums (Figure 4).

Figure 4. Week 1 Q&A and Discussion forum

In the section "Structuring information in academic contexts" some common patterns of structuring information are shown. They are general-to-specific, specific-to-general, problem-solution, sequence or chronology, cause and effect, and comparison/contrast. Also discussed is the CARS model (Swales, 1981): Creating a Research Space which involves three moves (Swales, 1990) with subsets. Sources in academic writing are covered in Week Three, which comprises lessons about reading strategies, integrating sources: positioning and stance, and referencing and academic integrity. Like other weeks, in this week, practices, quizzes, reading articles and discussion forums are used too although additionally a video lecture is used for reading strategy, integrating sources and referencing.

Finally, Week Four introduces the writer's toolbox: editing and proofreading. The learning elements for this week are the needs to revise and edit one's texts, revising and editing for language, which include some tips and tricks on common errors. A quiz activity is used to assess what the student understood by global editing (Figure 5).

Global editing

TOTAL POINTS 3

1. When you check your essay text globally, what kinds of issues should you focus on?   1 point

   What do you think?

   Your answer cannot be more than 10000 characters.

2. Once you have checked for the thesis or focus and you are confident that this information is clearly presented in the introduction-part of your essay, you will need to check for the contents of the rest of the essay. How do you do that?   1 point

   What do you think?

   Your answer cannot be more than 10000 characters.

3. If a particular passage does not seem to fit in, what can you try to do, before you decide to delete the passage from the essay?   1 point

   What do you think?

   Your answer cannot be more than 10000 characters.

☐ I understand that submitting work that isn't my own may result in permanent failure of this course or deactivation of my Coursera account.
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Enter your legal name

Save   Submit

Figure 5. Quiz activity

Reasoning errors in essays is one of the main groups of errors that need to be identified while editing. In academic essays, all claims need to be backed up by relevant facts and evidence, and where the conclusions follow from the (right types of) premises. In order to understand the common problems in argumentation and reasoning for editing purpose, a reading activity is built in the week four activities. It is an external activity named Logical Fallacies (Purdue Online Writing Lab). Overall, all four weeks consist of four overarching topics with different learning elements mentioned above. Each learning element is designed

with different activities: lectures, readings, quizzes, and forums.

3. Evaluation of the *Writing in English at University* (WEU) course

The principal purposes of the course are to provide an understanding of the conventions of academic writing in English, teach the components and benefits of process writing, and other related academic and learning skills needed for academic writing. They are ensured in this course by including lessons and activities around various conventions of academic writing. Similarly to the process writing approach, this course integrates teachers' facilitations in students' participation in the process of learning academic writing: brainstorming, outlining, drafting, revising, editing, and reflecting. However, in most lessons across four weeks, the widely practised PPP (presentation, practice and production) (Scrivener, 1994) is not employed, which may not scaffold the learning in its full potential. The model starts with input of language elements and ends with output, and in between are well controlled and freer activities. A Week Two lesson "Structuring paragraphs" does not demonstrate the full PPP model. The presentation phase is observed; however, the practice phase just has a quiz with two questions, which may not be deemed as enough practice to internalise the process of writing an academic paragraph. This lesson could have included any activity addressing the production phase where peers could review each other's works. This approach is nevertheless underpinned by the connected peer-learning approaches built on open source platforms (Siemens, 2008).

The aims of the course are validated by the current academic writing literature. The course claims in the aims section that "although we deal with generic skills in this course, many of the tasks are designed to encourage reflection on discipline specific conventions; this, in turn, will help you apply the generic skills to meet the particular needs of your course and your own discipline" (Coursera, n.d., Section. Course Aims). Johnson (2018) confirms the current evidenced-based use of generic academic writing skills because many institutions are currently offering the non-discipline based generic writing skills programs serving students from diverse disciplines. It is also claimed in the course that the academic writing skills can be transferred to professional contexts too. It is supported by Wingate's (2006) insight about university writing skill, which, as a study skill, is gradually developed and broadened to the wider areas of employability and lifelong learning.

This course has adopted an integrated online pedagogical approach coined recently, which is Multimodal Model for Online Education (Picciano, 2017). This model is an integrated model of major learning theories such as behaviourism, cognitivism, social constructivism (Schunk, 2012) and connectivism (Goldie, 2016). The attributes of the learning theories are

embedded in this course: self-study, independent learning, review of workshop/seminar contents, reflection, Socratic Method/dialectic, community of practice, interaction and situated learning, collaboration. At the centre of the course, it is attempted to create the community of practice of students and teachers (Wenger, 1991, 1999). This is a practical social learning approach where creating a learning community is central to situated learning practices scaffolded by the interactions amongst teachers and students. In the multi-modal integrated model, seven learning components that encompass the learning community are contents, social/emotional aspects, self-paced/independent study, dialectics/questionings, evaluations/assessments, collaboration, and reflection (Picciano, 2017). The contents are presented in reading and video media on Coursera online learning platform. The student can reflect on different learning experiences in the discussion forums, which is a powerful pedagogical strategy (Mayor, 2003; Garrison, Anderson, and Archer, 2001). Participants are also able to participate in collaborations and peer reviews, and student generated contents in the weekly activities of this course. Evaluation and assessment activities are employed in WEU as they are considered important vehicles for creating knowledge and content, as well as for generating peer-review and evaluation (Fredericksen, 2015). Some of the activities used in this course are quizzes, reflective self-assessment questions, and peer review exercises. An instance of peer review discussion is when an activity asks students to reflect on their current strengths and areas for development and keep a record of this as she/he will need to refer back to it during the course. This activity also encompasses the other self-paced independent study by using an adaptive software. More dialectical / questioning elements still could be included in the activities as they would stimulate discussion by asking the "right" questions to help students think critically about a topic.

Overall, connected with the four main topics, the lessons in each module are logically sequenced, actively presented, focused and explicit. Each module consists of a number of lessons, where the teaching consists of short video lectures, reading assignments and participating in activities. In connection with the video lectures and reading assignments, there are various other assignments, such as quizzes, reflective self-assessment questions, and some peer review exercises in which the students will have an opportunity to interact with peers taking the course. Although there are a number of peer-to-peer, and teachers-to-students discussion forums crafted in the course design, some of the limitations of this course are "the interactions among students are mediated, there is an absence of non-verbal cues, and text-on-screen is a very limited mode for what should be semantically rich exchanges" (Curtis& Lawson, 2001, p. 22). The online course may not address the social and emotional aspects of

learning in the same way the face-to-face tutoring and interactions would (Bosch, 2016); however, the interactions in the discussion forum may compensate this to some extent. Research has demonstrated that social and emotional presence in a course is important both for students' and teachers' learning and teaching satisfaction: teacher immediacy behaviours and more active presence of others could have been appropriate for this course to be more effective and engaging WE.

4. Conclusion

WEU is an example of an open access approach to English language learning in MOOC environment. It is a parallel approach to the traditional mode of language learning and education. The course incorporates most basic components of academic writing underpinned in multimodal learning theories and pedagogical strategies. It attempts to cater for the affective aspects of learning by including interactions in discussion forums; however, students' feedback about the course components and activities may be useful to evaluate the course effectively. This course can prove useful to academic English language learners and teachers across the world.

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LESSON PLAN

AN INTERACTIVE DIGITAL NOTEPAD TO UPGRADE FOREIGN LANGUAGE TEACHER EDUCATION DURING PRACTICUM

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1. Introduction

Practicum is an essential and meaningful form of teacher training but due to the great diversity of educational programs worldwide, their nature and quality depend too much on each particular situation. For this reason, an Interactive Digital Notepad (hereinafter IDN) prototype, based on Kanban and powered up by Trello, is presented as a solution to the challenges related to the Practicum in foreign language teacher education programs.

1.1. Why an Interactive Digital Notepad for Practicum Management?

In 21st century, internationalisation and exceptional measures on education derived from global health problems demand rapid technological changes that challenge current practices in teacher education (Townsend, 2011). It is undeniable that teacher training has become more international in the last decades (Martínez-Rodríguez, 2004). International school placement offers teacher candidates benefits on both personal and professional levels (Lee, 2011). However, there is an evident lack of unified formats for teacher training programs at an international level. National agencies tend to work in each country separately and this embeds initial teacher education with an excessively local projection (Karatsiori, 2019). The implementation of Practicum abroad has been recommended as a meaningful and consciousness-raising opportunity, and recent research suggests that it would be particularly beneficial for foreign language student teachers (Cho and Peter, 2019). However, international networks between higher institutions and secondary schools are not common yet and when running, they require negotiations with cultural, pedagogical, and ethical challenges (Parr and Chan 2015). Under the auspices of the Erasmus+ Virteach Project, a recent survey with over

500 responses from 13 European countries has confirmed the importance of Practicum in foreign language teacher education (Barros-del Río and Mediavilla-Martínez, 2019). Practicum mentoring should provide student teachers with feedback and follow-up support, help them become autonomous teachers, and include critical reflection and research orientation (Barros-del Río, 2019). Hence, flexibility and room for innovation stand out as key factors to enhance critical reflection and emancipation among student teachers. Nevertheless, for this to happen, collaboration between school mentor, university instructor and student teacher is key during the Practicum (Borko and Mayfield, 1995; Payant and Murphy, 2012). In this regard, collaborative settings where joint reflection takes place enable mutual learning and bring greater coherence to Practicum (Mauri et al., 2019).

All these shortcomings demand new forms of mentoring in a globalised educational context. In response to the current situation, Zabalza Beraza (2011) highlights the need for further use of ICT in Practicum management among other solutions. This includes tutoring, supervision, problem solving, introduction of analysis topics, evaluation, etc. Recent research has shown interest in this direction. Regarding ICT and Practicum in online settings, Song (2019) and Song et al. (2019) have assessed the utility of peer interaction, and the use of videos respectively. However, no literature has been found on tailored digital solutions for mentoring foreign language student teachers' Practicum. This lesson plan proposes the integration of technology into the Practicum of foreign language student teachers showing the use of a robust tool for mentoring and communication between student teacher, university instructor and school mentor, which can be designed to set up common patterns for fieldwork.

1.2. Design of a *Kanban* digital board for Practicum management

Field training demands intense interaction and support among the participants. Hence, agile methodologies such as *Scrum* and *Kanban* seem appropriate in this context. They are easy to use and allow freedom for interaction among users, two key aspects in educational contexts (Kniberg and Skarin 2010). Added to that, the *Kanban* board is a collaborative tool that can be easily integrated in Virtual Learning Environments (hereinafter VLE) such as *edX* or *Moodle*.

Once an appropriate structural organisation of a Practicum model has been embedded within an educational program located in a Virtual Learning Environment (VLE) (López et al., 2010), a software app must be chosen for the *Kanban* board. Although most of them increase collaboration among team members, *Trello* is one of the most popular project management tools worldwide and quite appropriate to support agile learning with *Kanban* in teacher professional development (Parsons et al., 2018). *Trello* allows working in projects through

boards with lists. Each list has progressive blocks with a drag-and-drop format. Additional interesting features are integration with other applications, the use of checklists, and the ability to write comments and notes and add attachments. The students can benefit from this workflow management method as it helps visualize the work to do dividing the tasks into three main stages: "To do tasks", "In Progress tasks" and "Done tasks" as Figure 1 shows:

Goals	To do tasks	In progress tasks	Done tasks	Cooperation	Reflection	Diary
Objectives: • O1 • O2 • O3 • O4 Competences • General • Instrumental • Personal • Systemic	Observation Lesson Planning Teaching Intervention Reflection about the practicum stage			Cooperation with school mentor Cooperation with university tutor	O1: monitor and record the progress O2: assessment of didactic competences O3: reflect about own knowledge and skills	Daily entrance of personal performance

Figure 1: Proposed structure for IDN

This progressive sequence maximizes efficiency and agility. The dynamic nature of *Trello* allows the different items to be moved from one column to another as the activities and tasks are performed.

Although *Trello* is close-source, it offers cloud (SaaS) distribution with free use license, is supported by mobile platforms, and is based on the *Kanban* approach. Also, *Trello* is time-effective, tracks task cards well, and allows debates inside each card. Additional interesting features are integration with other apps, the use of checklists, the ability to write comments and notes, and add attachments. Under this frame, the Practicum becomes a project with its own board and lists of cards. Progress is visible as the cards are drag-and-dropped from one list to another.

2. Lesson Plan

Objectives:

1. To present an interactive digital notepad to foreign language student teachers

2. To upgrade their practicum experience

3. To create a personalised interactive digital notepad

Education level: Tertiary education

Participants: Foreign language student teachers, and university instructor

Materials: Personal laptop and internet connection

Estimated time: 55 minutes

Stage	Procedure	Time	Interaction
Warm up	Ask your student teachers to work in pairs and share their prior experiences during Practicum. If none, they can share their expectations. Then ask them to share with the whole class positive and negative aspects of Practicum.	10 minutes	Ss-Ss and T-Ss
Before	Ask your students to open their laptops and go to https://trello.com/b/QavMtgOz/foreign-language-practicum Present this *Trello* board as a unified and standardized organisational scheme for Practicum management . Encourage your students to surf with you its six-list structure, which includes "Diary", "To do tasks", "In progress tasks", "Done tasks", and "Critical reflection on advancement and cooperation", and "Evaluation", displayed on the board. Allow some time to get familiar with this structure. Answer questions and doubts.	20 minutes	Ss-T
While	Once the students are familiar with the IDN, ask them to create their own board. They go to https://trello.com/signup, follow the six-list structure and give a name to their own board. Meanwhile, the teacher moves around in the classroom, supervises progress and solves questions.	20 minutes	Ss-T
After	Homework: Ask your students to review the General objectives tab and the Competences to achieve tab (both under the "Critical reflection on advancement and cooperation" list and inspired in Crookes 2003) so that they can write an entry in the Diary list.	5 minutes	Ss-T

3. Follow-up

One session will not be enough to fine-tune a personalised IDN. That is why the teacher should encourage student teachers to play with the available design features.

To guide the students in this assignment, the teacher may suggest a simple three-stage project under the title "Designing my IDN". This assignment requires some time on the part of the students so it advisable to do it at home and give the students at least one week to complete. This assignment is meant to help the students become familiarised with the IDN, but the help of the teacher is essential. Hence, the teacher must not only be available online to answer any question but also check the students' progress regularly. A simple schedule may be useful to help the students perform their assignment. First, they are asked to create a "to do" task in relation to the desired visual aspect of their board (name of their board, background image, etc.). Second, while playing with the options available in *Trello*, they have to create an "In progress tasks" entry explaining the options found and the choices made. Third, they are to create an entry in the "Done tasks" reflecting on the problems encountered and the solutions found, as well as the role of the teacher in the process. This IDN is expected to be their working tool during Practicum and it is important that they feel comfortable with it.

Agile use of this IDN requires time. It is advisable to implement this lesson plan some time before the student teachers begin their Practicum so that they have time enough to ge familiar with their working board.

4. Conclusion

We created and fine-tuned this IDN during the COVID-19 pandemic lockdown. Despite the challenges, it allowed us to put in motion a lively community where the student teacher, the university instructor and the school mentor interacted in a very constructive way.

It is our belief that this IDN prototype addresses the major challenges posed by Practicum and we hope it of use to the new generations of foreign language student teachers.

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