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Research paper

Examining Teachers' Roles in Online Learning

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Abstract

Online learning has been used in the literature to cover diverse learning contexts ranging from blended learning, distance learning, virtual learning and web-enhanced learning. Many aspects of online learning have become the focuses of research and teacher roles are one of them. The present study, therefore, intends to examine how 153 university students perceived the roles of their teachers in online learning of a blended English course by using a 27-item and 5-Likert-scale questionnaire (the STRI). Results of statistical analyses showed that the Cronbach's Alpha value of the entire questionnaire was *.955 an*d those of the three sub-roles were all above *.891,* indicating that both the questionnaire and the three factors of sub-roles were reliable and valid. Further analyses revealed that the three sub-roles of teachers, i.e., the cognitive role, the affective role and the managerial role, were significantly different from each other. Among them, the means of the managerial role was significantly higher than that of the cognitive role while the means of the affective role was the lowest. Results of descriptive statistics also revealed that keeping a record of students' learning in the managerial role was quite notable for students. The findings suggest that the roles of teachers in online learning as a whole were reduced. However, the managerial role was more notable than the other two roles and the affective role was the least impactful in the online learning context in this study. The researcher believes that these findings may offer some insights to classroom implications and provide the basis for future studies of comparing teacher roles across different educational contexts.

Keywords: Teacher roles, online learning, cognitive role, affective role, managerial role.

1. Introduction

The extensive incorporation of Information and Communication Technology (ICT) into various educational contexts has brought about great changes in teaching and learning. Researchers hold that the growth of online programs and course offerings are changing the roles of teachers and the nature of teaching. Explaining teachers' roles poses a great challenge to researchers and practitioners (Bennett & Lockyer, 2004), thus the need to clarify and scrutinize teacher roles in various instructional contexts cannot be ignored. Even though a multitude of publications and practices have proposed various theoretical conceptions and categorizations of teacher roles in different teaching contexts, few quantitative data have been collected to specify and examine teacher roles as well as any possible changes that may occur in online learning environments. (Baran, Correia & Thompson, 2011). Therefore, the present study aims to quantitatively measure through a 27-item questionnaire how university students perceive the roles of their teachers in online learning of a blended English course.

Online learning here is used interchangeably with other similar terms such as computer-assisted language learning, online language learning, virtual learning, blended learning,

hybrid learning and distance learning. Researchers hold that these terms often overlap with each other with the differences having more to do with the percentage of content that is delivered online (Blake, 2011).

2. Literature review

Prior to examining teachers' roles in online learning contexts, it is necessary to probe into the definitions of roles first. Many attempts have been made by researchers to define roles and teacher roles. For example, according to Wright (1987, p. 5), a role refers to what one does or is expected to do in a given environment and it incorporates three principal elements: the work done and job-related activities, the relationships and communications one has with others, and beliefs and attitudes.

As to teacher roles, there are actually more categorizations than definitions. For instance, Alvarez et al. (2009) categorized five roles of teachers: designer/planning role, social role, cognitive role, technological domain and managerial domain. Other generalizations include: pedagogical, social, managerial, and technical by Berge (1995); instructional design, organization, facilitating discourse and direct instruction by Anderson et al (2001); cognitive, affective, and managerial roles by Coppola et al (2002); administrative, personal, technological, instructional design, pedagogical, assessment and social roles by Varel (2007); online teacher roles of managing social interaction, instructional design, guiding the use of technology, learning assessment and learning support by Badia, Garcia & Meneses (2017). In fact, these roles overlap with each other and the overlapping theoretical classification becomes an obstacle for classroom teachers to understand their roles and examine precise functions and tasks related to teacher roles (Baran et al, 2011). Besides, relevant teaching behaviors under different terms of teacher roles generalized also vary from one to another, which makes it rather challenging to draw analogies across similar instructional contexts. Furthermore, most of the research is dominated by qualitative studies ranging from case studies, collaborative action research and grounded theory (Izadinia, 2015; Li & Ni, 2011; Subramaniam, 2010; Scott, 2013; Tran & Nguyen, 2015; Donnelly, 2013). In contrast, quantitative studies that examine teacher roles and relevant teaching behaviors in online learning contexts are scarce (Alvarez, Guasch & Espasa, 2009; Lee, 2011; Badia et al, 2017).

Some studies in the field of teacher roles are worth researchers' attention. For instance, Lam & Lawrence (2002) studied changes of the roles of teacher and students in a computer-based project in a university-level Spanish foreign language class. Through classroom observation, open-ended questionnaire and interview, the researchers found that the teacher retained his roles of expert and authority in class and role shifts were not as significant as expected. Classroom observation revealed that the main role of the teacher in the computer lab was to answer questions, both technical questions and language questions. The fact that the teacher was very much in demand was quite contrary to what he had originally expected. Such reliance on the teacher suggested that students still regarded him as the main source of answers. In addition, the students also considered the teacher to be the "language police" and saw him as an authority figure. Although the researchers concluded that the teacher's role as expert and manager seem to be largely maintained in the computer lab, a few changes were still observed in the manager role of the teacher. To be more exact, the teacher no longer needed to initiate the project nor did he need to motivate the students. Thus, "the manager role of the teacher was reduced, with some of the responsibilities of creating the learning conditions being passed on to the learners" (Lam & Lawrence, 2002).

In a similar case study by Donnelly (2013), the researcher looked into the complex roles of PBL tutors in blended problem-based learning (PBL). Based on the observation, interview and self-reflective papers of the participants, Donnelly identified a few "distinct" roles for the PBL tutor within a blended learning tutorial experience: the role of being present as tutor authority and the role of tutor to help overcome ambiguity and misunderstanding. In spite of Donnelly's claim that these roles for the PBL tutor were distinct from traditional ones, these roles are also observed in face-to-face learning.

In another study of collaborative action research, Subramaniam (2010) investigated the changing roles of five secondary science teachers when they taught with computer

technology. Analysis of qualitative data of interview, observation and discussion revealed that the changes of teaching role mainly fell into two actions: planning and managing computer technology as well as controlling students' learning activities. Subramaniam (2010) found that planning and managing computer technology was expanded and diversified to more roles of supporters, developers, and visualizers. The supporter role was specified as "construction of scientific knowledge by posing questions, comprehending and readdressing students' explanations and connecting the concept or topic to previous concepts or topics". The developer role was clarified as "the action of helping students to connect, link, construct, make and break-down the concepts presented through the attributes of animation, simulation and interactivity provided by the computer technology". The visualize role referred to the action of "channeling the powerful imageries that computer technology afforded to focus and capture students' attention onto the concept taught".

Subramaniam's study differs from the previous two studies in two ways. First, teacher roles were not defined or categorized according to commonly used terms in other studies such as "technical", "managerial", "pedagogical", and "social" roles (Baran et al, 2011). Instead Subramaniam attempted to break down the concepts of teacher roles into "actions" that teachers are likely to conduct in instructional contexts, bringing teacher roles from more general concepts to more tangible teaching-related behaviors. However, these behaviors or "actions" related to teacher roles failed to be scrutinized quantitatively due to the nature of qualitative research. Neither is the number of the specified behaviors adequate to provide a more comprehensive understanding of teacher roles in online learning and teaching contexts. Consequently, a quantitative study of teacher roles along with teaching-related behaviors under each role is necessary to reveal the new characteristics, if there are any, or the possible changes of teacher roles in online learning contexts.

Based on the literature review above, the present study intends to address the following research questions:

- What are the roles of teachers in the online learning context studied?
- How do learners perceive the roles of teachers in the online learning context?
- What are the differences, if there are any, in teacher roles in the online learning context?

3. Conceptual framework of the instrument used in the study

The present study used a 27-item questionnaire to explore teacher roles along with the behaviors that teachers are likely to perform in online learning. The questionnaire was designed and constructed by Huang (2017) according to the conceptual framework of Coppola's definitions of the roles of online teachers (Coppola et al, 2002, p. 176). In their studies, Coppola et al highlighted three main roles of online teachers: a cognitive role, an affective role and a managerial role. In particular, cognitive role relates to the processes pertaining to learning, information storage, memory, thinking, and problem solving etc. The affective role includes instructor behaviors of influencing a student's relationship with the instructor and with other students and the online classroom atmosphere. Finally, managerial role refers to instructor behaviors related to course planning, organizing, leading, and controlling etc. The theoretical concepts of these three roles of online teachers constitute the conceptual framework of those items in the questionnaire of the study. It is hoped that such quantitative measurement will help to pinpoint more specific features of teacher roles in online learning contexts.

There are several reasons for Coppola's classification of online teacher roles to be used as the conceptual framework for this study. First of all, it is the term of "online learning". Although the term is used in its narrower sense in the present study, online learning has been a rather broad concept that encompasses a wide range of learning modes (Blake, 2011, p. 19). Since it covers both blended or hybrid courses of the present study and the online or virtual courses of Coppola's study, online learning is thus regarded as the common area where the present study and Coppola's study are related. In other words, both studies fall into the broad field of online learning.

Furthermore, there are similarities between the contexts of the two studies. On the one hand, Coppola's study aims at the pedagogical roles of virtual professors in an

asynchronous learning network (ALN). ALN is a form of "e-learning" that also belongs to the field of online learning. The learning network is quite complicated in that it includes several variants of courses. Some of the courses had the matched sections instructed by the same teacher in a traditional classroom and using the Virtual Classroom (Coppola et al, 2002, p. 173). Likewise, the blended English course in the present study also consisted of two main parts: one setting of the traditional face-to-face classroom instruction and another setting of online language exercises. For the same class of students in this study, there was the same teacher in the two settings. Both studies began from one particular learning context but are not expected to be constrained to this one single context. They both seek to generalize common features instead of identifying mere individual differences from their own findings so that these findings (whether theoretical or practical) can be applied to other similar learning contexts.

The third reason lies with the roles of online teachers. Although different terms were used to refer to the teachers in the two studies, the teachers actually shouldered similar responsibilities. In Coppola's study, "virtual instructor or professor" was used while "online teacher" was used in the present study. In spite of the different terms, the roles of the teachers in both studies did have something in common: they both gave face-to-face instructions in the classrooms; they both played a role in the online parts even though the online parts were designed differently in the two studies. In fact, such phenomenon is quite common in the literature. "Various terms are used in online learning to describe online teacher roles, for example, online teacher, e-moderator, online tutor, facilitator, or online instructor." (Baran et al, 2011, p. 422). Considering the similar responsibilities, the roles of the online teachers in this study are thus examined in the same framework outlined by the conceptual categories of online teacher roles in Coppola's study.

Finally, the results of Coppola's study (2002) suggested that "the roles enacted by instructors in traditional settings are also enacted in ALN environments." (Coppola et al, 2002, p. 186). In other words, the three main roles of online teachers, i.e., cognitive roles, affective roles and managing roles are also part of the roles of traditional instructors and are actually shared by both traditional teachers and online teachers. Therefore, the definitions of the three roles of online teachers, i.e., cognitive roles, affective roles and managerial roles, constitute the conceptual framework of the present study, which was conducted in a blended English course that consists of both the traditional instructions and the online learning of language exercises.

Researchers have created taxonomies and models specifying the roles that online teachers need to perform while teaching online. Although the studies addressing these roles show variety in both the contexts and the definitions of online teachers, commonalities do exist. Indeed, it is these commonalities that justify the conceptual framework for the present study and relate this study to the whole body of relevant literature in the field.

4. Method

4.1. Background of the study

The study was conducted at a university in Southern China where a blended English course has been adopted for all non-English majors. The blended English course consists of traditional face-to-face (f2f) instruction and online learning and lasts 36 weeks in total over one academic year. F2f instruction occupies four periods a week in physical classrooms and online learning takes up two periods a week on the Internet. Students can continue learning online beyond the designated time either on campus or off campus if they wish to do more exercises.

In f2f instruction, teachers use English textbooks and give instruction to students face to face. In contrast, students in online learning complete online exercises on their own. The online learning provides students with various learning resources and different language exercises such as listening, speaking, reading and writing online. In addition, learner-learner interaction, learner-instructor communication and feedback from teachers are also made possible in virtual chat room of the online learning program.

The design of the blended English program shows that teachers are present either physically in classrooms on campus or online off campus. Thus, teachers might have

played different roles in the two learning contexts due to different delivery modes. It is probable that such changes of delivery format are likely to bring about new characteristics and possible changes of teacher roles especially in online learning.

4.2. Participants

First of all, the sample subjects in the present study were all voluntary participants from the same university. After the researcher introduced the nature and purpose of the academic research, a total of 153 students from four classes agreed to join in and completed the questionnaires. Consequently, these students, along with their teachers, were all random sample subjects as a result of voluntary participation in the research.

All the students came from four classes in their first year at a university in Southern China. They all studied the blended English course and their majors ranged from accounting, advertising, IT, to journalism. As they all came from the same university, these students were of similar ages and had similar English proficiency due to the same enrolment criteria of the university. Furthermore, four English teachers who taught the four classes also shared similar academic backgrounds. They were colleagues aged between 30-40. They taught different classes but the same English course offered by the same English school at the same university. As the recruitment criteria for qualified teachers of the same discipline at the university is the same, these teachers had similar educations and professional backgrounds: all are English majors with Master's Degrees.

4.3. Instrument

The instrument (A Scale of Teacher Role Inventory - STRI) adopted in the study was a five-point Likert scale. The 27 items of the instrument describe specific behaviors of teachers in online learning environments. In particular, items 1-10 deal with the cognitive role, items 11-20 are related to the affective role and items 21-27 refer to the managerial role. The instrument was developed and constructed by Huang on the basis of the conceptual framework of Coppola's research and its reliability and validity have been fully discussed and proved in her previous study (Huang, 2017).

5. Data collection and analysis

The research was conducted near the end of one academic year at the university when students were supposed to complete the blended English course for the whole academic year. The questionnaires were administered to 153 students of the blended English course at the university. Data was then collected when the participants finished completing the questionnaires. Furthermore, to triangulate the research, the researcher drew on qualitative data from an interview conducted in a previous study of the same blended English course (Huang, 2016). The interview was conducted with 15 students who agreed to take the interview after the questionnaire. The researcher interviewed the students one by one and wrote down their responses to questions about the whole blended English course. The questions related to the present study included: 1. What are the roles of their teachers in online learning? 2. What are the advantages and disadvantages of online learning? To ensure successful communication, the interview was conducted in the native language of both the teacher and the students—Chinese. Later, the Chinese transcript was translated into English by the researcher and then proofread by other colleagues to avoid misunderstandings.

After the survey, the researcher input both quantitative and qualitative data into a computer. First, a series of statistical analyses were done to test the reliability and validity of both the entire instrument and the respective sub-roles. Descriptive data of each item helped to describe in details how participants perceived teachers' behaviors in online learning. Most importantly, T-test of the three main roles revealed not only possible new characteristics or changes of teacher roles but also the differences of the sub-roles of instructors in online learning. Finally, as to the transcripts of the interview, the researcher coded students' responses according to the two questions. This part of the students' responses will be used to correspond to the results of questionnaires in discussion of teacher roles in online learning.

6. Results

6.1 Reliability and validity test

First of all, a reliability and validity test was conducted to validate the instrument used in this study. Results of the reliability test are listed in Table 1 below.

Table 1. The results of Cronbach alpha values of the STRI (*n=153*).

	The overall instrument	**Factor 1 cognitive role**	**Factor 2 affective role**	**Factor 3 managerial role**
Cronbach Alpha value	.955	.932	.891	.899

Data in Table 1 showed that the Cronbach Alpha value of the overall instrument was .955 and those of the three main factors were .932, .891, .899, suggesting excellent reliability. Generally speaking, factors in a questionnaire with values above .60 are acceptable and one with a value above .80 is considered to be good (Wu, 2012; p. 244). The Cronbach Alpha values of the three main factors in this study all went up to and even above .90, which means the three main factors underlying the structure of the questionnaire were highly valid and those items describing teachers' behavior under each factor of sub-roles contributed substantially to the conceptual constructs.

In order to probe into the 27 items that describe teachers' behavior under each main factor of the sub-role, descriptive statistical analyses of all the items were carried out. Participants' responses to each item in the three main factors will be presented part by part. First, figure 1 below presented the cumulative percentages of each item in factor 1 of cognitive role from the highest to the lowest. The data focuses only on the positive responses of learners towards each item, i.e., the cumulative percentages of participants who chose to "agree" or "strongly agree" to the items of factor 1.

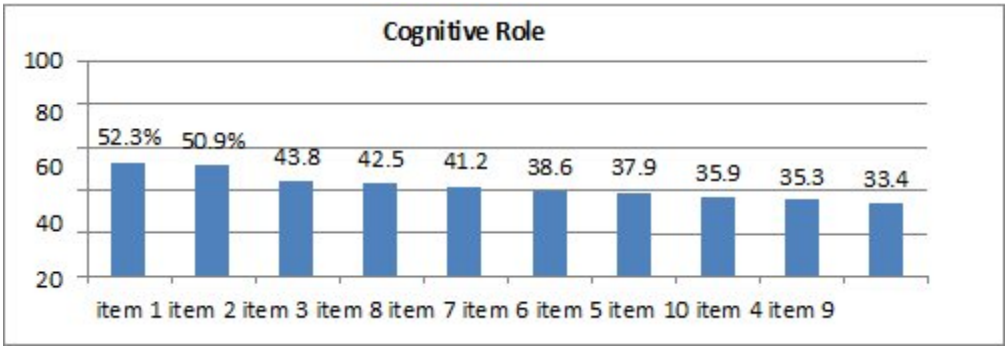

Figure 1. Cumulative percentages of participants' positive responses to the 10 items of the cognitive role.

As shown in figure 1, item 1 had the highest cumulative percentage (52.3%) of participants who agreed or strongly agreed to the statement. This suggested that over half of the participants agreed or strongly agreed that teachers used videos to facilitate English learning in the online learning context. Another two items with higher cumulative percentages were item 2 (50.9%) and item 3 (43.8%), which described teachers' use of English audios, websites and web pages to assist students with learning. These three items all dealt with technology-mediated instruction and served to reveal how ICT had influenced teaching in the online learning context. Instructors attempted to facilitate cognitive learning by resorting to media like audios, videos and websites or web pages etc., which characterized many online learning contexts (Li & Walsh, 2010; Hu & McGrath, 2011; Li & Ni, 2011). Contrary to these three items, item 9 had the lowest cumulative percentages of 33.4% among the 10 items. It seemed that teachers did not play much role in helping students to correct mistakes in the process of online learning exercises, which fits the particular context very well. The online learning program automatically checked the online exercises and thus spared the teachers of the need to do this.

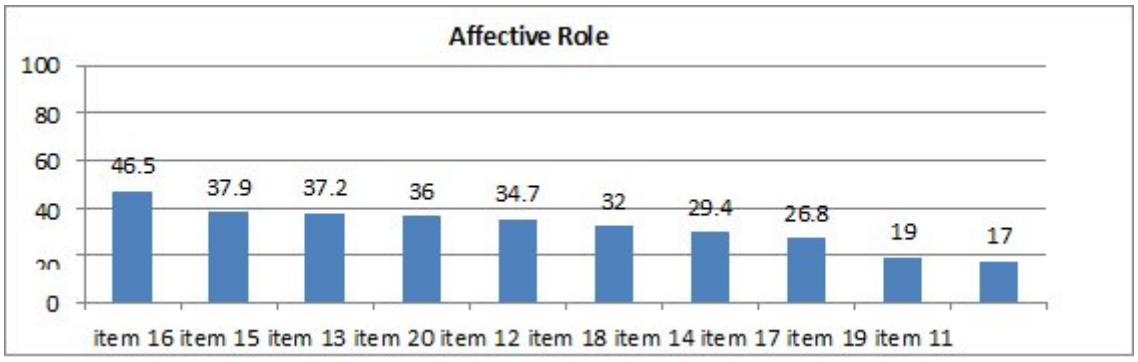

Figure 2. Cumulative percentages of participants' positive responses to the 10 items of the affective role.

In a similar vein, figure 2 shows the data of the 10 items of factor 2. Item 16 of encouraging learners to explore answers on their own had the highest cumulative percentage – 46.5% among the list. Such findings corresponded well to the condition of online learning where students were supposed to learn with a higher degree of autonomy (Lai, Yeung & Hu, 2015). On the other hand, Item 11 (17%) ranked the lowest. That is to say, very few students recognized that games were often used in online learning. The data suggested that language games in this study did not appear to be one of the common behaviors of instructors in order to connect with learners or to create a lively atmosphere in online learning.

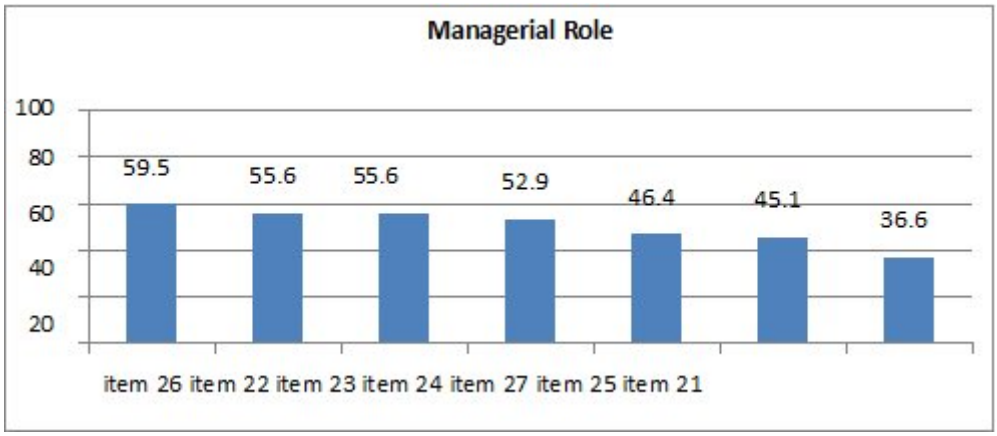

Figure 3. Cumulative percentages of participants' positive responses to the 7 items of the managerial role.

When it comes to the third factor of the managerial role, item 26 showed the highest cumulative percentage of 59.5%. In other words, more than half of the learners agreed or strongly agreed that teachers kept a record of students' exercises in online learning. Participants' responses indicated that it was important for instructors to monitor learners in online learning (Coppola et al, 2002). Contrary to item 26, item 21 that dealt with making a learning plan for students had the lowest cumulative percentage of 36.3%. It meant that only one third of the participants agreed or strongly agreed that teachers needed to make a plan for their learning. This result suggests that most learners have a degree of learning autonomy and regarded making a learning plan as more of their own duty than the responsibility of their teachers.

In addition to the descriptive data of all the 27 items in the STRI, the study also calculated the item means of each factor. Table 2 below lists the descriptive statistics of item means of the three factors. Data in Table 2 show all the three means were quite moderate, indicating that the roles of teachers as a whole were somewhat reduced and thus not very notable in online learning. Furthermore, the three sub-roles of online teachers did not have the same weight in the same learning context. To be more exact, the managerial role had the highest item means of 3.484 whereas the affective role had the lowest item means of 3.111, indicating that teachers in this study were seen to play a greater role in class management while they exerted the least influence on

affective aspects. The cognitive role, with the item means of 3.297, comes in between the two sub-roles.

Table 2. Descriptive statistics of item means of the three factors of the STRI (*n = 153*).

Factors	Item means of the factors	SD	SE
Managerial role	3.484	.836	.676
Cognitive role	3.297	.883	.071
Affective role	3.111	.761	.068

To further reveal the relationship among the three sub-roles of teachers in online learning, a T-test of the item means of the three sub-roles was conducted to find out whether significant differences existed among them. The results of the T-test are listed in Table 3 below.

Table 3. Results of the T-test of the item means of the three main factors of the STRI.

		Paired Differences					t	df	Sig.(Two-tailed)
		Means	SD	SE	95% Confidence Interval of the Difference				
					Maximum	Minimum			
Pair 1	**Managerial - Cognitive**	.187	.776	.063	.063	.311	2.980	152	***.003***
Pair 2	**Cognitive – affective**	.186	.489	.040	.108	.264	4.693	152	***.000***
Pair 3	**Managerial – Affective**	.373	.695	.056	.262	.484	6.632	152	***.000***

Table 3 shows that the mean differences were all significantly different from one another even though the mean differences were quite minor. In particular, the mean difference between the managerial role and the cognitive role was .187. The *t* value was 2.980 with 152 degrees of freedom. This *t* value was significant at the .05 alpha (p = .003). In other words, significant differences existed between the managerial role and the cognitive role with the managerial role reporting higher item means than the cognitive role. Similarly, the cognitive role was found to be significantly different from the affective role as well with a mean difference of .186 and a *t* value of 4.693 (df = 152, p = .000). Finally, the mean difference between the managerial role and the affective role was .373. The *t* value was 6.632 with 152 degrees of freedom. This *t* value was significant at the .05 alpha (p = .000). That is to say, there was also a significant difference between the managerial role and the affective role with the item means of the managerial role higher than that of the affective role. Overall, results of a t-test revealed that the item means of the three main factors were significantly different from each other, with the item means of the managerial role being the highest, followed by the cognitive role, whereas the affective role had the lowest item means. The data suggested that, in the learners' view, teachers played a greater role in class management but contributed less to cognitive learning processes and exerted the least influence on affective aspects in the online learning context. Such findings proved to be more specific in presenting the characteristics of the different roles that teachers have played in online learning.

7. Discussion

7.1. Cognitive role

In this section, the results of the questionnaire and the interview are discussed in more detail in relation to the findings of previous studies. First of all, the researcher of this study will discuss the categorization of teacher roles together with the specific teaching-related behaviors under each sub-role. For instance, under factor 1 of the cognitive role, instructors may perform 10 different teaching-related behaviors to facilitate learners' cognitive learning processes and these behaviors do not always have the same effect in the same learning environment. To be more exact, items 1, 2 and 3 focus on the technology that teachers have applied in online learning to assist learners with their learning. Data showed that these items had the top cumulative percentages of positive responses (52.3%, 50.9% and 43.8%, respectively) among the cognitive role and were most recognized by learners.

In fact, previous research in this respect has shown overlapping and contradictory findings. Some studies highlight technological roles as a distinct category of teacher roles (Alvarez et al, 2009, p. 332; Lee, 2011, p. 923; Subramaniam, 2010, p. 945). Whereas, other studies have regarded it as a different category such as "instructional methods", "orientation to the classroom", "the role of expert and manager", and "managerial role", (Koc, 2011, p. 200; Coppola et al, 2002, p. 180; Lam & Lawrence, 2002, p. 302). The disagreement in the relevant literature indicates that more research is necessary in the area.

Despite the lack of consensus on the theoretical level and in empirical studies, the highest means of item 1, 2 and 3 of the cognitive role in this study indicated that students had a good opinion of the use of ICT by their teachers in online learning. Indeed, other studies have found that students did incorporate technological resources recommended and shared by teachers. Teachers' application of technologies and advice on what technologies to use and how to use them also affect the types of activities that students engage in and are relevant to learning processes (Lai et al, 2015, p. 3). Students were also found to have higher expectations on how teachers can teach and help learning with technology in online classes (Lai et al, 2015, p. 15). Technological applications are by no means limited to the use of videos, audios, English websites and English web pages as described in this study. Other technology-based instruction incorporates the use of ICT for different pedagogical designs and purposes such as CMC, ICQ, apps in cell phones, audio and video conferencing tools, discussion forums, movies, news and online courses on YouTube, as well as social communication media such as Facebook (Lee, 2011; Lai et al, 2015). In response to the need of technological application in online learning, teacher training should be geared to integrating technology with pedagogy. Teachers, thus, can first learn to use basic ICT tools and media, then select suitable technology to match online learning tasks, and finally creatively adapt existing technology for online learning (Compton, 2009, p. 80).

Unlike items 1, 2 and 3, the other 7 items from item 4 to item 10 in the cognitive role are related to what teachers can do in the cognitive aspects of learning. The means of these seven items all gathered around the third-point scale of neither disagree nor agree. Such moderate means revealed that the cognitive role was not very impactful in the online learning. In traditional teacher-centered classroom instruction, teachers act as the expert and authority who provide resources and answers (Lam & Lawrence, 2002, p. 295). In contrast, the online learning program in this study offered ample learning resources, actually much more than what any individual teacher can offer. It can also automatically check answers and provide keys. Presumably, these functions have reduced students' reliance on teachers and thus decentralized the roles of teachers in the online learning. Therefore, teachers are likely to move from the pivotal position to the status of "guiding on the side" and they are expected to adopt facilitative approaches in creating learner-centered online learning (Anderson et al, 2001, p.13).

7.2. Affective role

As to the affective role, data of the 10 items in this group also help reveal certain characteristics. Generally speaking, in order to encourage students to explore answers on their own (item 16) and help them to stay focused (item 15), teachers have to

promote more online communication through various ways such as encouraging students to exchange ideas (item 13), express feelings (item 12) and bringing up more discussions (item 20). In fact, items 16, 15, and 13 in this study did have the highest means among the group, which in turn validated the corresponding situation in the online learning.

In this study, learners considered it to be important for instructors to keep an eye on online discussions and exercises (Donnelly, 2013, p. 138). It is also believed that the co-presence of an online teacher in the online classroom could help make the learning environment less distant (Harms et al, 2006, p. 1). Nonetheless, the means of item 14 (the teacher brings students closer to each other) was only 3.03 and stayed nearly at the foot of the whole group. The lower means may indicate that most students did not feel closer to each other in spite of the presence of their teachers in the online learning all the time. The findings prove that teachers' presence alone is not enough.

The reasons may be multifold. First of all, data of item 11 may provide some insight. Item 11 refers to whether the teacher had led students to play games to learn English and it had the lowest means of 2.69 among the whole scale. The lowest means of item 11 indicated that games were not commonly observed in online learning even though considerable evidence shows that games provide "robust, stimulating and motivating environments" for learners (Bawa, Watson & Watson, 2018). In fact, various digital games have been used by many commercial online courses in China as technological tools and stimulus to orient and engage distance learners. Researchers also hold that language games are often task oriented and often accomplished by working in groups (Blake, 2011, p. 27). Although games are considered to be a viable way to stimulate language learning, they did not seem to be very prominent here in the study. Neither did they seem to have facilitated the atmosphere or motivate learning online.

Another reason might be that students lacked a sense of community and social cohesion online. Researchers found that students tend to feel closer to each other in a successfully-fostered online community and thus persist in learning (Senior, 2010, p.144). Hampel and Stickler (2005, p. 318) noted that meaningful communicative interaction would not take place in instructional settings that lacked social cohesion and that learner-learner and learner-instructor interaction played a crucial role especially in promoting successful language learning. Obviously, the online environment has changed the media of the interaction between instructors, learners and contents. Such changes in turn require a re-examination of the roles that teachers take in enhancing students' learning (Baran et al, 2011, p. 421) and justify the need for more research into the emotional impact of the transition from f2f instruction to online learning (Donnelly, 2013, p. 140).

7.3. Managerial role

Compared with the first two sub-roles, the managerial role has the highest item means of the whole instrument. In particular, item 26, keeping a record of students' exercises had the highest percentage (59.5) and also the highest means (3.71) not only in the managerial role but also among the entire instrument. It means that this teaching behavior of recordkeeping was regarded as the most distinct aspect of the teacher roles in online learning in this study. The findings were different from Lee's conclusion in that "be clear" was the most important aspect of the managerial role (Lee, 2011). In fact, recordkeeping has been incorporated in the managerial role by many researchers but with different terms. For example, Coppola et al. (2002) described it as "tracking students down" and classified it as one of the organizing behaviors of the managerial role. Aydin's study (2005) and Bawane & Spector's study (2009) also referred to it as "student registration" and "recordkeeping" under the construct of the managerial role.

On top of item 26, other items in the managerial role such as "making a learning plan, teaching schedule, setting up rules and disciplining the class" also help to describe more accurately the teaching behaviors related to managing online learning. In previous studies (Lee, 2011, p. 923), however, some descriptions of the managerial role like "Don't overload", "manage time properly" and "be patient" appeared quite limited and vague to reveal characteristics of the managerial role of online teachers.

The fact that the managerial role of teachers was considered to be the most notable in this study disagrees with the findings of previous research. Lam & Lawrence (2002, p. 303) found ICT caused limited changes of teacher roles in the area of the managerial role where teachers did not have to initiate the project or motivate the students in the project as much as in a traditional classroom. The researchers concluded that "the manager role of the teacher was reduced, with some of the responsibilities being passed on to the learners". However, in this study, teachers were perceived to play a greater role across different aspects of class management ranging from discipline, recordkeeping, rules and regulations to scheduling and planning. Such monitoring by instructors is supposed to help learners enrolled in online learning and prevent them from dropping out in during the course. This might be one of the most significant ways in which teachers can promote online learning.

7.4. Qualitative data from the interview

As to the qualitative data from the interview, the key findings proved to correspond to the findings of the quantitative data from the 27 items of the questionnaire. A review of the coded data resulted in identifications of several characteristics of teachers in relation to online learning. For example, one student, *Liu,* said:

"Online learning offers students more freedom and very rich learning contents. We are able to choose freely whatever we like in the online learning programs. But it is quite difficult to get access to teachers online when we have questions."

Another student, *Wang*, had similar opinions:

> *Online learning has lots of interesting contents. I can pick those that really interest me. However, online learning lacks supervision and monitoring. We do not communicate with each other online. It is difficult to work on.*

A third respondent, *Qin*, also mentioned these problems:

> *Online learning provides a wide range of interesting learning contents to us. But those exercises are too easy, even easier than high school. We can seldom practice speaking or writing online although we can ask our teacher for any questions we don't understand. In fact, the teacher does not reply very much. There is little communication online.*

To summarize the statements made by the interview respondents, the main problems with teachers in online learning are identified as follows:

- Little communication with the students online.
- Inadequate feedback or comments on relevant exercises, especially speaking and writing. Lack of supervision and monitoring from teachers to push students to persist.
- Less direction to guide students to learn and do the exercises.
- Too much freedom in online learning will make students feel lost or even drop out halfway more easily.

It seems that students do not need the teachers to provide learning contents or answers to exercise as these are provided by the online learning program itself. In other words, teachers in online learning are no longer content providers or an authority who offer correct answers. Rather, teachers are strongly needed by students for adequate and proper feedback, guidance, direction, supervision and monitoring in the process of learning. These aspects were described by items 4-10 of the cognitive role in the questionnaire. The complaints of students in the interview, coupled with the moderate means of the cognitive role in this study, revealed that teachers did not play adequate roles in giving timely and sufficient feedback and comments to students' learning online. Furthermore, the problems identified by interview respondents were also in line with the lowest item means of the affective role and indicates that learner-learner and learner-teacher communication was scarce. Although online learning in the present study does provide a virtual chat room for learners to communicate with each other and their teachers, the record of the virtual chat room showed that very few people talked online. One of the major reasons for this might be limited time and efforts that teachers could spend in addition to f2f instruction. Previous studies also showed that learners, with all

the conveniences of modern technology, still preferred real-life communication to virtual environments (Trinder, 2016). Finally, respondents in the interview also expressed strong concern about greater monitoring to help them to work. The highest item means of the managerial role showed that the teachers in this study made a certain effort to monitor online learning but students seemed to need more than that. It shows that this is where teachers could play a greater role in the online learning context.

8. Conclusion

The purpose of this study was to explore and quantitatively measure teacher roles in an online learning context through a 27-item instrument of five-point Likert scale (the Scale of Teacher Role Inventory, the STRI in short) (Huang, 2017). The study proposed the following three research questions:

- What are the roles of teachers in the online learning context studied?
- How do learners perceive the roles of teachers in the online learning context?
- What are the differences, if there are any, in teacher roles in the online learning context?

Research results identified three main roles of teachers in the online learning context – a cognitive role, a managerial role and an affective role. Furthermore, these roles did not seem to have the same effects in online learning. For example, among the 27 specific teaching behaviors of online teachers, recordkeeping of the online exercises proved to be the most significant for learners while encouraging students to learn English by playing games was regarded as the least important. More importantly, the cognitive role, the affective role and the managerial role were found to be significantly different from each other. In particular, the managerial role undertaken by online teachers was considered to be the most significant to students. Teachers, in students' views, played a smaller role in cognitive aspects and had the least influence on affective aspects of online learning.

9. Implications

It is hoped that the findings of this study might offer some insight into online learning and teacher training as well. For example, since teachers have the least involvement in affective aspects of online learning, it is then necessary to gear teacher training in the direction of facilitating positive instructor-learner relationships and building a helpful virtual classroom atmosphere. To fulfill this goal, on the one hand, teachers need new skills that are obviously different from those in traditional instruction (Hampel & Stickler, 2005). On the other hand, researchers and practitioners also need to work more on how technology could be made full use of in order to facilitate and foster more successful communication online (Trinder, 2016; Adnan, 2017). With regard to the cognitive role, the results of the quantitative data in this study indicated the teachers' role as a provider of learning content or as an authority to offer correct answers was somewhat weakened in online learning. On the contrary, the interview findings revealed that teachers were still greatly needed by students for their timely and adequate guidance, direction, feedback and comments while students are learning online. Thus, how to provide more individualized and effective guidance and feedback might be the focus of teacher training and online learning in the future. As to the managerial role, both quantitative data of the questionnaire and qualitative data from the interview in the present study indicate that it is teachers' monitoring and recordkeeping that prevents students from dropping out halfway and encourages them to persist. Indeed, greater efforts are needed to supervise, monitor and track students' learning online in different ways. This is probably much more crucial than in face-to-face learning contexts.

10. Limitation and future studies

Although very few attempts have been made so far to quantitatively measure the teacher roles in relation to the sub-roles and their specific teaching behaviors in online learning, there are limitations with the study when the generalizability of the study is considered. The findings were somewhat limited as the study only researched students' perceptions of online teachers. It would be more revealing if the study had compared

students' perceptions of teacher roles in the online learning context with those in other instructional contexts.

Future studies may look into teacher roles across various instructional settings rather than only in an online learning context. Comparisons could also be made between teacher roles in different learning environments so that a more complete picture of teacher roles could be presented for the benefit of both researchers and instructors and ultimately for the improvement of online learning.

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Appendix

The Scale of Teacher Role Inventory (STRI)

Dear Students,

The purpose of this survey is to find out your beliefs of teachers' roles in online English learning. The questionnaire is not a test and there is no "right" or "wrong" answer to all the questions. The results of the investigation will be used only for research purposes so please give your answers truthfully to ensure the success of the survey. Thank you very much in advance for your cooperation!

Name:

Major:

Which year at university:

Instruction:

Please circle a number from 1 – 5 to tell us how much you agree or disagree with the following statements.

Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
1	2	3	4	5

Teacher roles in online English learning	
1. The teacher uses videos to help students to learn English.	1 2 3 4 5
2. The teacher uses audios to help students to learn English.	1 2 3 4 5
3. The teacher recommends English websites/web pages to students to learn English.	1 2 3 4 5
4. With the explanation of the teacher, the focus of the learning materials becomes clearer.	1 2 3 4 5
5. The teacher helps students to overcome misunderstandings.	1 2 3 4 5
6. The teacher helps students to analyze the learning content.	1 2 3 4 5
7. The teacher makes comment on students' work.	1 2 3 4 5
8. The teacher gives advice on doing exercises.	1 2 3 4 5
9. The teacher helps students to correct mistakes.	1 2 3 4 5
10. The teacher shows students the right direction of doing activities.	1 2 3 4 5
11. The teacher leads students to play games to learn English.	1 2 3 4 5
12. The teacher encourages students to express their feelings in English.	1 2 3 4 5
13. The teacher encourages students to exchange ideas in English.	1 2 3 4 5
14. The teacher brings students closer to each other.	1 2 3 4 5
15. The teacher helps students to stay focused.	1 2 3 4 5

16. The teacher encourages students to explore answers on their own.	1 2 3 4 5
17. While learning English, I feel confident of myself because of the teacher.	1 2 3 4 5
18. The teacher makes English learning interesting to me.	1 2 3 4 5
19. The teacher makes English learning stressful to me.	1 2 3 4 5
20. The teacher brings up different issues for discussion.	1 2 3 4 5
21. The teacher makes learning plan for students.	1 2 3 4 5
22. The teacher makes teaching schedule in class.	1 2 3 4 5
23. The teacher controls learning pace.	1 2 3 4 5
24. The teacher disciplines the class.	1 2 3 4 5
25. The teacher sets up rules and regulations for doing activities.	1 2 3 4 5
26. The teacher keeps a record of students' exercises.	1 2 3 4 5
27. The teacher adapts the exercises to meet students' needs.	1 2 3 4 5

Research paper

Instant-messaging for improving literacy and communication skills in FLT: students' evaluation

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Abstract

The present work presents an example of using Computer-Mediated Communication (CMC) in Foreign Language Teaching (FLT) with the aim to increase students' hours of exposure to English as a Foreign Language (EFL). Since class time is sometimes limited, it is necessary to look for reinforcement tasks for students to properly develop literacy and communication skills. In addition, CMC is considered by scholars a new variety of language, with its own features and rules, one that students must master as well as other traditional language varieties. As secondary goals, this project intended to develop students' motivation, autonomy, linguistic awareness and cooperative learning. By using a Mobile Instant Messaging (MIM) application, *Remind*, students were encouraged to communicate in groups and, thereby, supplement hours of practicing the foreign language outside the classroom, without limitation of time and space. Students evaluated the task by means of an online questionnaire and results proved to be positive, showing that they enjoyed the activity and considered it useful and effective. Moreover, they realised the importance of cooperative learning, of responsibility and of being aware of their own learning process. Likewise, the real and authentic purpose of communication enhanced motivation among students.

Keywords: Computer-Mediated Communication (CMC), Foreign Language Teaching (FLT), blended learning, cooperative learning, motivation.

1. Introduction

Technology develops by leaps and bounds, reshaping society and pushing it to adapt to constant changes. This remodelling also affects education, and a clear example is the inclusion of Information and Communication Technology (ICT) in teaching programmes around the world. Currently, new generations born within the technological era unconsciously integrate ICT in their daily lives without any effort; that is why they are called 'digital natives', as opposed to 'digital immigrants' (Prensky, 2001), the latter are mainly adults who need to learn to use and accommodate to technological devices. That is the reason why we, as teachers, must take advantage of ICT, considering that computers and smartphones, among others, are usual elements in students' lives and are motivating for them.

As communication is an essential part of ICT, its direct relation with learning languages is obvious. There is a need for improving productive and receptive skills in foreign language learning (FLL) and technology may be of great help. Students can use internet resources to watch videos in other languages, read foreign newspapers or talk to people from other countries. These practices are motivating not only because they involve using technology, but also because they have a real purpose and learning becomes meaningful. Following Guilloteaux and Dörnyei (2008, p. 58), the teacher must make "use of stimulating, enjoyable, and relevant tasks" and promote "learner autonomy".

Therefore, for students, technology may mean an increase in motivation and a change in their view about learning, as they can do it unconsciously or, at least, in an informal situation, which gets them away from the strictness of the classroom. In addition, for teachers, one of the main advantages is overcoming the lack of time in regular classes, which sometimes is not enough to teach, especially a foreign language (FL) that must be practiced beyond the classroom to achieve a suitable level.

Computer-Mediated Communication (CMC) can help the FL teacher as a way to reinforce students' productive and receptive skills. Using asynchronous (email, texting) as well as synchronous interaction (chats), the students may benefit from technology and improve their communicative competence in the FL. Indeed, they must also learn how to communicate using what some scholars consider a new variety of language that has become widespread and therefore necessary: a hybrid between spoken and written language that has emerged on the internet. Since CMC, such as instant messaging, is a kind of hybrid between oral and written language –a 'written speech' (Georgakopoulou, 2011, p. 96) or 'Netspeak' (Crystal, 2006, p. 17) involving multi-tasking (Baron, 2008)–, the subjects' discourse is spontaneous and sudden as it is normally in speech, but also allows for planning ahead as in written language. Yet, the language used in this medium is not transient and it contributes to the individual's 'techno-linguistic biography' (Barton and Lee, 2013, p. 18), which individuals may well be aware of. That is why CMC can be a complementary resource for FL teachers.

This paper presents an example of using CMC in the FL class in order to increase students' hours of exposure to the FL. Students were B1 users of English at Universidad Autónoma de Madrid and they were encouraged to employ a Mobile Instant Messaging (MIM) application, *Remind*, to communicate in groups and, thus, to keep on practicing the language outside the classroom. After the experience, they were asked to evaluate the task.

2. Theoretical framework

Social changes have meant a modification in the way teachers and students understand education, which has led to a development of a myriad of new approaches to teaching and learning in the last decades. This is especially evident regarding FL teaching, as communication between people worldwide is a frequent practice and governments and international organisations, such as the Council of Europe (2001), promote the learning and teaching of more than one language, and particularly English as a lingua franca. Thus, new teaching methods entail also new activities and resources, among which ICT and CMC are included.

2.1. CMC, a new variety of language

CMC is a new variety of discourse between spoken and written language (Georgakopoulou, 2011) that emerged from the widespread use of the internet and the current globalized communications. In recent decades, it has attracted the attention of researchers from different areas of knowledge, Linguistics being one of the most prolific research domains.

A well-known expert on the topic is Susan Herring. She has devoted a great deal of her research to the analysis of language on the internet (2008, 2010, 2011 and 2012, among others). There are two main ideas in her research: the characterization of CMC as conversation, that is, a kind of "written speech" (Herring, 2008, p. 2); and the specific features of this new variety of language.

Regarding the first one, though controversial, most scholars agree on conceiving CMC as a hybrid between spoken and written discourse. The main disagreement comes from the idea that "conversation was, by definition, spoken and heard" (Herring, 2010, p. 12). However, when we talk about CMC, we unconsciously use a terminology typical of oral discourse, as 'He told me', 'Listen', 'Talk to you later' instead of 'He wrote me', 'Read' or 'Write to you later'. In Herring's (2010, p. 4) words, conversation can be understood as "any exchange of messages between two or more participants, where the messages that follow bear at least minimal relevance to those that preceded or are otherwise intended as responses". Therefore, the oral component is not essential according to this conception of conversation.

There are two main types of exchanges on the internet: asynchronous and synchronous. From an educational point of view, the former (emails, text messaging) "supports work relations among learners and with teachers, even when participants cannot be online at the same time" (Hrastinski, 2008, p. 52). Asynchronous exchanges allow for editing the text, as in traditional written discourse, since the writer has more time to reflect on the message. Synchronous communication (chats, videoconferencing), on the other hand, takes place in real time, acquiring features of face-to-face (F2F) communication, even when the channel is written, as in chats, where messages are "composed and sent on the fly, like turns in spoken conversation" (Herring, 2010, p. 13), being informal and context-dependent. The main difference with F2F interactions is that turn adjacency is disrupted and overlapping is common due to the lack of real presence of the speakers, and the possibility that all of them are writing at the same time.

The second research strand on language on the internet is related to the specific linguistic features of it, known as e-grammar (Herring, 2012). For instance, Bieswanger (2013, p. 464) mentions four main categories of micro-linguistic features in CMC: emoticons, non-standard spelling and creative use of writing systems, abbreviation and non-standard punctuation. Before Bieswanger, Crystal (2001) also characterized internet language as a variety of language, which he called 'Netspeak', which includes as distinctive elements the use of abbreviations, emoticons and a special typography.

Herring (2012) conducted a thorough analysis of this language variety, going from typography to syntax. She established a number of typographic features, such as the use of numbers instead of letters, special characters (for example @ or #), nonstandard capitalization, repeated punctuation to emphasize (!!!) or emoticons. She also mentioned "loosened orthographic norms", which include abbreviations, spelling that imitates pronunciation, prosody or paralinguistic phenomena. Regarding morphology, there are especial processes of word formation, acronyms, semantic shifts and using parts of speech with a different function (e.g. a noun replacing a verb). Finally, from a syntactic point of view, the language of the internet is characterized by being particularly telegraphic and fragmented.

Our aim here is not to analyse the variety of discourse generated on the internet, but to understand its features in as far as it is essential for students to learn this linguistic register, not only as an additional textual genre, but also as a useful tool to communicate with others.

2.2. CMC in FL teaching and learning

Diverse educational pillars support the basis of this teaching proposal: constructivism, cooperative learning, student-centredness, informal learning, blended learning, and project-based learning. All these new approaches to teaching can be merged developing a very simple task. We will see how they lead the present work.

First of all, integration of technology in the teaching of English as a foreign language (EFL) "demonstrates the shift in educational paradigms from a behavioural to a constructivist learning approach" (Wang, 2005, p. 40). Nearly 50 years ago, Piaget (1973) suggested that learners construct knowledge from their own experiences, understanding the learning process as an active, meaningful medium of assembling knowledge, the learner being a central agent. Therefore, using CMC in EFL teaching follows, in Wang (2005, 40-41) words, constructivist assumptions: "learning is an active process", "problem solving is the focus", and "learning is a collaborative process". When students are enrolled in CMC, particularly a chat —as this is the task described in the present work—, they are actively participating and developing the activity, building knowledge. Also, they are negotiating meaning in interaction and, therefore, solving problems as they arise (clarifying meaning, asking for further information to properly understand the message, etc.). Moreover, as they talk and negotiate they are learning in a collaborative manner. Beyond Piaget's cognitive or individual constructivism, we find Vygotsky's social constructivism, which "is a highly effective method of teaching that all students can benefit from, since collaboration and social interaction are incorporated" (Powell and Kalina, 2009, p. 243). Following Vygotsky (1962), social interaction plays an essential role in learning and CMC tasks may, therefore, be a useful activity for building knowledge. Gómez and Shafirova (2016), after analysing a

collaborative learning task using MIM, concluded that cooperation is a fundamental element in the learning process, as acquiring knowledge is never an isolated undertaking, but a social enterprise.

As mentioned before, learners are the central agents in their own learning process. Newmaster, Lacroix and Roosenboom (2006, p. 105) consider that learner-centredness involves authentic learning, that is, "limited to environments in which the student is intrinsically motivated to solve a problem or tackle a project". Using CMC to communicate with peers in real situations and negotiating meaning is a clear example of learner-centred authentic learning. Moreover, the teacher is just an observer, which makes him/her take a step back and move away from the traditional teacher-centred approach to teaching (Wang, 2005).

Regarding informal learning, Bekleyen and Yilmaz's (2012) research on the effects of a Computer Supported Collaborative Learning (CSCL) activity on a group of students from Dicle University (Turkey) is interesting. They concluded that students displayed "positive attitudes towards the autonomous learning approach although they came from traditional and authoritative backgrounds" (Bekleyen and Yilmaz, 2012, p. 424). Informal learning or learning beyond the classroom allows the students not only to spend more time in contact with the area of knowledge, but also promotes autonomy and responsibility in their learning process. Also, according to Benson (2011, p. 12), "Locus of control shifts back to learners when they gain confidence in their ability to learn in more naturalistic, informal ways".

This latter idea is related to blended learning, as the students are asked to work on the subject (the English language in this case) not only in F2F traditional lessons, but also in virtual environments (Slomanson, 2014). Graham (2006, p. 18) establishes three main advantages of blended learning: flexibility (as students decide about the time and place), participation (increased due to lack of constraints of time and place), and depth of reflection (students can take their time to think and muse before participating). Additionally, as mentioned before, the exposure time to the FL increases, as the classroom is not the only moment when students are practicing the language.

Another methodology that guides this proposal is project-based learning, defined as "a model that organizes learning around projects" (Thomas, 2000, p. 1). At first sight, CMC using MIM cannot be considered a project in itself, as, if we strictly follow the recommendations of certain scholars, essential guidelines for project-based learning include "assign students a design problem", "structure project milestones to facilitate knowledge construction", or "have students articulate their learning through the development of learning artefacts" (Koh, Herring and Hew, 2010, p. 290). If instructions for students, as we will see in the section devoted to the methodology, are basically to maintain a spontaneous conversation in EFL about any topic they are interested in, as in real conversations, we cannot talk about a design problem, concrete milestones or developing learning artefacts. However, Thomas (2000, p. 1) adds some other features of project-based learning, such as tasks "based on challenging questions or problems", "problem-solving", "decision making", "cooperative learning", giving "students the opportunity to work relatively autonomously over extended periods of time" in "authentic content", the teacher being a facilitator and not a director. All these requirements are met by MIM applied to EFL learning, as will be explained in more detail below.

Finally, some benefits of CMC over F2F communication are the opportunity to participate equally, a higher motivation and "the social construction of knowledge" (Warner, 2004, p. 69). Sotillo (2006) also mentions that negotiation of meaning in a real conversational situation improves the learning of FL, makes the learners be more aware of linguistic structures and supplement their linguistic competence outside the traditional classroom. In addition, in order to communicate in the current technological society, EFL learners will need to master this emergent variety of language as well as traditional ones.

3. Methodology

This section presents in detail the methodology and exact procedure by means of which a group of students used CMC, particularly a MIM application, to increase hours of exposure to the FL and improve their literacy and communication skills. After defining the sample and the context, the use of this MIM application will be described, together with the guidelines given to students to carry out the task. Finally, the process of data collection will be explained.

3.1. Sample and context

The project was carried out by a group of 49 students studying third academic year of Primary Education at university. They have a compulsory subject called *English II*, where they are supposed to prove a B1-intermediate level with the aim of achieving a B2 by the end of the academic year (though actually the group language level was heterogeneous). Most of them were born in 1996, and therefore the mean age was 21 years old. They had three and a half hours of class per week, which is insufficient to increase their level if they do not practice outside the classroom environment. That is the reason why they were asked to use a MIM application to keep in daily contact with the English language.

3.2. Procedure

Remind (https://www.remind.com) is a free instant-messaging software especially developed for academic teacher-student interaction, as it allows for safe private exchanges (phone numbers are hidden and participants can log in using their institutional email address) and provides researchers with an immediate transcript of user exchanges. It can be accessed from a computer, a tablet or a smartphone, which allows for flexibility regarding time and place of use.

First, the teacher creates an account like in any other MIM application such as *WhatsApp*, *Telegram*, etc. Being the only administrator, he/she can create as many groups (virtual classrooms) as necessary. The number of participants per group is limited to 10, including the teacher. Ten groups/classes were created, called *English1* to *English 10.* Every time a group is created, *Remind* generates a code by which the participant can log in. Students were allowed to choose the group they wanted to belong to (Table 1). Groups had an average of 5 students (some of them were made up of 4 students, some others of 6) and the teacher was included in all of them. They were free to choose their group so that they felt more at ease and communication would improve.

Table 1. Example of procedure to create *Remind* groups.

CLASS	CODE	MEMBERS
English1	xxxxxx@mail.remind.com	

After downloading the phone application and using the code to log in, they could start interacting. They were asked to write at least four times a week during the academic year about any topic they found interesting, in order to ensure they would complete the task. Moreover, they were informed this activity would be a part of their final evaluation; in other words, participation was necessary to pass. Figure 1 shows an example of a virtual classroom.

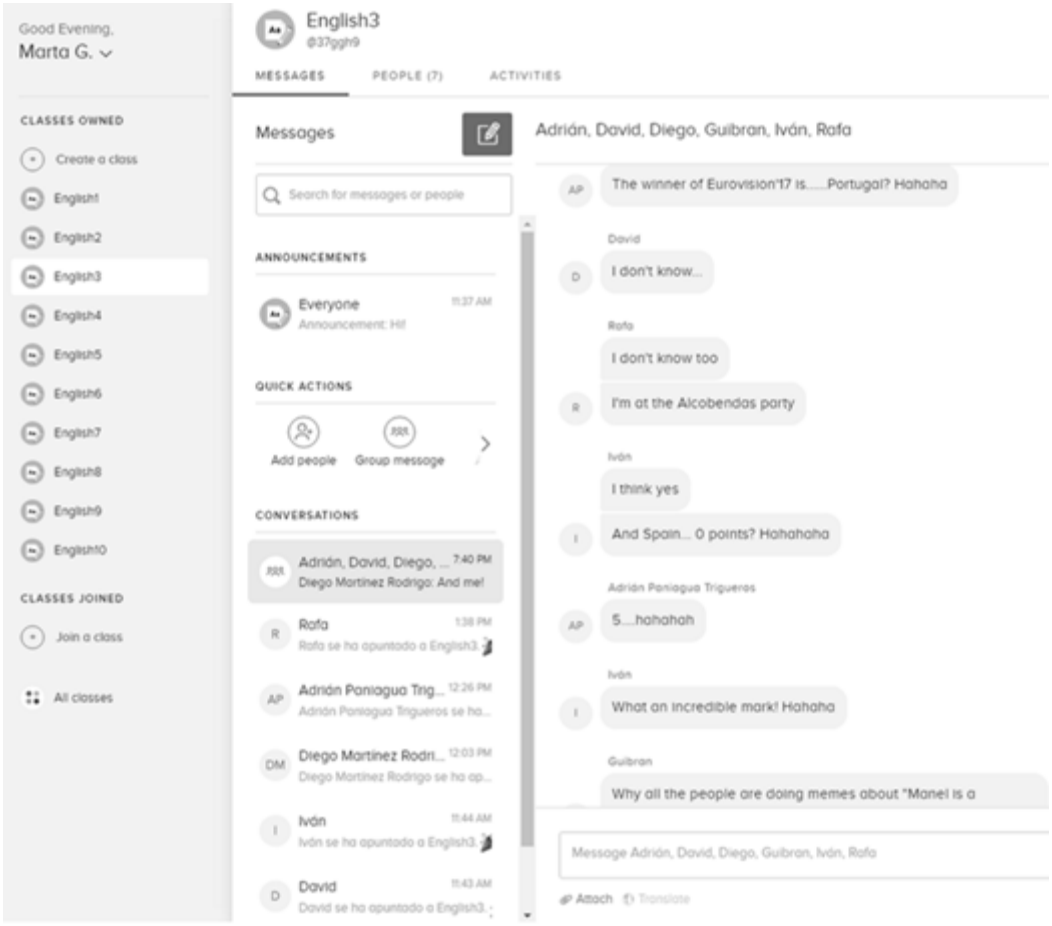

Figure 1. Sample chat.

3.3. Data collection

Once the task was finished, the application allows the administrator to send the chat history by email. The result was a corpus made up of 10 files (8.49 MB) and a total of 78,011 words. Table 2 presents the number of words per group, with a mean of more than 7,000 words.

Table 2. Corpus data.

Class	Words
English1	3,095
English2	8,296
English3	7,827
English4	5,409
English5	6,820
English6	3,438
English7	3,473
English8	16,825
English9	7,803
English10	15,025
Total	**78,011**

As can be seen, not all groups were equally productive. Those with the lowest number of words (English 1, 6 and 7) limited their participation to the minimum requirement (using the chat four times a week). However, the rest of the groups were motivated and chatted more than what was demanded, which means that they were motivated.

When the academic year was finished, in order not to put pressure on the students so they could feel free to give their honest opinion, they answered an online questionnaire about the activity. The questionnaire was made up of 8 Likert-scale questions and a final open question. In the next section, results will be commented on.

4. Results and discussion

4.1. Likert-scale questions

The questionnaire was administered online, obtaining just 39 answers (out of the 49 students who participated in the activity). Figure 2 displays the results of the 8 Likert-scale questions, where they had to choose from 1 = nothing/bad to 6 = a lot/very good.

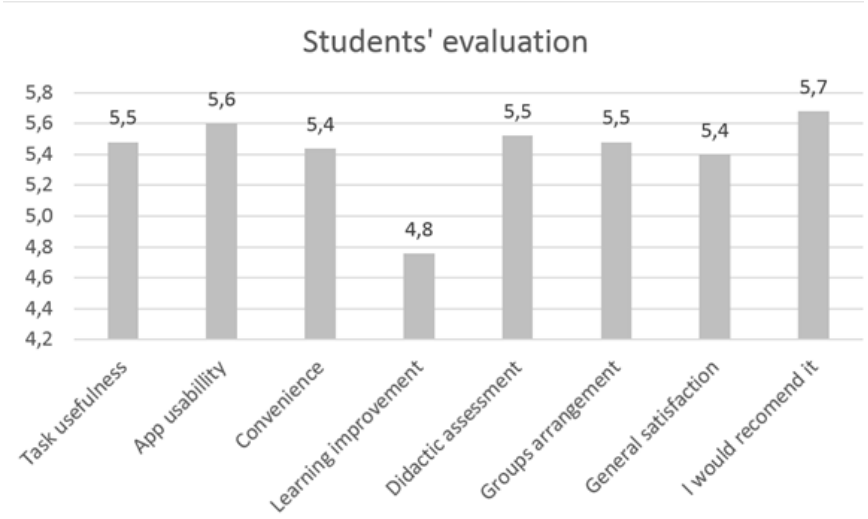

Figure 2. Questionnaire results.

Observing the results, it is noteworthy how the students positively value the application's usability. Taking into account that they are digital natives (Prensky, 2001), this is not surprising. Regarding learning improvement, it seems contradictory that this variable presents the lowest punctuation, as they consider the didactic benefit of the task to be certain and they think it is a useful undertaking. Finally, they mostly would recommend using MIM to improve their literacy and communication skills.

4.2. Open question

The open question, where the students can give their opinions, is what provides the most valuable information in this study. We list and analyse some of these below in order to know how students evaluated this CMC task.

In example (1) we observe how the student becomes aware of the importance of cooperative learning and project-based learning. They must work *together* to achieve an aim: communication in the FL.

> (1) *I think it is such a great way to* learn from others *while having fun. However, this methodology* depends mostly on the will of the students *to learn from others.*

Thereby, the constructivism assumptions pointed out by Wang (2005) are met here, using a chat to actively learn and build knowledge collaboratively. Likewise, the activity accounts for some features of project-based learning proposed by Thomas (2000): challenging problems, problem-solving, decision-making, cooperative learning, autonomous work, and authentic context. Students must direct the conversation, solve communication problems and cooperate without explicit guidance by the teacher.

Examples (2) and (3) show how FL can be practiced beyond the academic institution, in virtual environments (Slomanson, 2014), increasing flexibility, participation and depth of reflection (Graham, 2006).

> (2) *Very useful to keep on practising English every day.*
>
> (3) *I have never talked in English so long in a conversation.*

Again, through blended-learning and informal learning students' autonomy is boosted, they become responsible for their own learning process and contact with the FL is enhanced.

Students also become aware of the need for feedback to overcome their mistakes. (3) and (4) are examples of this.

> (4) *It's a very good idea, but a disadvantage is that mistakes are not corrected.*
>
> (5) *Teacher's support helped me correct my grammar and vocabulary mistakes.*

There seems to be a contradiction between both examples due to the non-continuous participation by the teacher. She wanted to keep a distance, acting as an observer (Benson, 2011), and took part just in those cases when mistakes were worth correcting. In addition, on many occasions there was peer correction though, unfortunately, some students do not feel totally sure when it is a peer who corrects a mistake. Many times, however doubts were brought to class, which gave rise to unexpected discussions and facilitated the explanation of non-planned issues. In a sense, these situations conformed a sort of flipped classroom context, as 'research' by students was previously carried out and "classroom time is dedicated to learning activities that require students to engage concepts at a higher level in a group setting and with an instructor at hand to answer questions, give feedback, and prompt reexamination of key ideas" (Baepler, Walker and Driessen, 2014, p. 229).

As mentioned in the section devoted to the theoretical framework, learning should be meaningful and have a real purpose. That way, it makes sense for students, and is what motivates them.

> (6) *It's a good learning method, in which you are obliged to work on your English as you need to look up words to express yourself and to understand your classmates.*

In (6), a student realised that they needed or felt obliged to make an effort to get themselves understood, which, otherwise (in non-real situations), they would not probably do. In addition, they had to use the dictionary to increase vocabulary.

> (7) *I have learned how difficult is trying to explain something with your words when your classmates don't understand what you are meaning.*

We can see a similar example in (7), where negotiating meaning is a must, like in real conversations. Again, a real purpose makes learning meaningful. Also, as Sotillo (2006) claims, learners develop linguistic awareness, since they need to analyse sentence structures to interpret the message, use the correct words, etc.

This last idea is linked to motivation, as expressed in examples (8) and (9): as they feel free to talk about what is interesting for them, the experience changes into funny instead of boring and compulsory, and learning becomes more motivating. According to a study carried out by Waninge, De Bot and Dörnyei, (2014, p. 711), four variables that affect motivation in students are *enjoyment*, *confidence in their language learning ability*, *anxiety* and *attitudes toward the teacher*. By using MIM to practice communication in the FL, students enjoy themselves (as proved by their own comments); they gain confidence in their language skills, as they manage to make themselves understood; their level of anxiety decreases, as they are not exposed in front of a whole class, but they can be at home or any other place where they feel safe and relaxed; and the teacher, as mere observer, does not constitute a threat.

> (8) *It's a funny and interactive way of working English writing and you are free to talk about what interests you.*
>
> (9) *I think it's an interesting idea for students at university and to promote English learning.*

As a curious issue, example (10) can be a possible explanation for the contradictory fact that the item 'learning improvement' was not highly valued.

> (10) *To the question on 'learning improvement' my punctuation is not high as I don't think the aim of this task is learning, but practising (what is cool for writings).*

Students may link the activity to writing, instead of viewing it as a complete means of communication. They are not just developing their writing skills, but also their reading and interaction. What they are actually learning is what Herring (2012) called e-grammar (or the 'Netspeak' of Crystal, 2001). They use emoticons, abbreviations, special characters, repeated question marks and exclamation marks to emphasize their discourse, imitating pronunciation with, for instances, the use of capitals to indicate shouting, etc. Though the aim of this work is not a linguistic analysis of chat discourse, this idea opens a future research line.

Going back to the topic of digital natives (Prensky, 2001), opinion (11) proves that they feel comfortable using technology. In this way, teachers can take advantage of devices and gadgets students like and, somehow, they relate to leisure instead of to studying time.

> (11) *I think that with this activity the students' motivation increases, as the learning of English is done using a way of communication with which students are currently familiarized.*

Finally, fragments (12) and (13) show that students consider this activity innovative and a different way of evaluation.

> (12) *I think it's been a really innovative task. I had never done something like that and it was actually good.*
>
> (13) *I love the idea and I really appreciate a different evaluation strategy.*

To summarise, it can be concluded that the students participating in this MIM activity to improve literacy and communication skills in EFL evaluated the task as positive, obtaining a mean punctuation of 5,4 out of 6. Students showed they had become aware of the importance of cooperative learning and they had to solve communication problems by negotiating meaning and looking up words in a dictionary. They also reflected on English language structures, developing linguistic awareness. MIM increases flexibility regarding time and space, participation and autonomy. Moreover, motivation was achieved mainly due to fact that they enjoy ICT activities and to the authentic purpose of communication. Among the seven components of FL motivation which Csizér and Dörnyei (2005, p. 21) outlined, this task contributes to developing at least two of them: *instrumentality*, as students became more mindful of the "pragmatic benefits of L2 proficiency"; and *linguistic self-confidence*, as the specific communication channel made them feel anxiety-free, as opposed to F2F communication.

5. Conclusions

This paper presents an alternative way to improve literacy and communication skills in FL teaching (FLT). By means of CMC, particularly a MIM application, learners can communicate in the FL beyond the classroom, increasing the hours of exposure to the target language. Moreover, this activity gathers some of the current approaches and principles in FLT: cooperative learning, blended learning, student-centredness or project-based learning.

Using a chat to improve students' skills in FL fosters autonomy, making students responsible and aware of their own learning process. In addition, motivation enhances due to two main elements: a real purpose, as communication is meaningful; and the use of ICT, which for digital natives is an essential part of their lives, and using devices such as computers or smartphones is an incentive for them. Likewise, informal learning (outside the academic institution) encourages students to work and, in the particular activity presented here, the possibility to choose the conversational topic made them feel even more interested. Another important advantage is that the task can be carried out anytime and anywhere. This flexibility facilitates learning as well as supplementing classroom hours. As results from the questionnaire illustrate, students' evaluation of the MIM activity is positive.

The main shortcoming of this activity is that it cannot be used to teach pronunciation, since "text-based Internet language is lacking in sound, and therefore, questions of phonetics and phonology, which are central to linguistics, cannot be addressed directly" (Herring, 2008, p. 4). Therefore, a possible alternative would be using video chat activities.

An interesting further research direction would be to focus on qualitative analysis of the corpus in order to identify mistakes by non-native speakers (NNS) of English and, thereby, improve teaching programmes. In addition, it would be relevant to compare NNS' e-grammar with Ns' in order to identify similarities and differences.

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Case study

Netflix and L2 learning: A case study

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Abstract

The evolving video viewing habits of consumers combined with advances in mobile technology have resulted in the growth of video on demand (VOD) services. While these video streaming services potentially offer several benefits for L2 learners, little is known about them in the context of language learning. Thus, this study fills this gap in the literature by examining EFL students' views of Netflix, the leading provider of subscription VOD. The study also investigates the extent to which EFL learners use Netflix for L2 learning and the means by which they access the service. Nine Japanese EFL students participated in the study and were given three months to use Netflix. The participants were then interviewed to obtain their opinions of the video streaming service. Four themes were extracted from the interview data: (1) enhanced learning effectiveness, (2) increased L2 motivation, (3) better access to L2 knowledge, and (4) hindered convenience. It was also found that the learners watched primarily through mobiles devices rather than PCs, and viewed more L2 titles than L1 programming. These results illustrate that subscription VOD has the potential to foster L2 learning and underscore the necessity for more research into their use for language learning.

Keywords: L2 video, CALL, L2 learning, English as a foreign language, Netflix.

1. Introduction

According to a 2016 report by Nielson on video viewing habits, almost two-thirds of the questionnaire respondents stated that they watch video on demand (VOD) programming, video which can be streamed via the Internet or downloaded for later viewing. Another significant finding from the survey, which was administered to people in 61 countries, is that 43% of the respondents said that they view VOD content at least once a day, demonstrating that these types of services are becoming more and more a part of our daily lives. Compared with physical media and video from transactional VOD services like iTunes or Google Play that must be purchased or rented periodically, the advent of subscription VOD presents language learners with a more convenient way to view authentic second language (L2) video, i.e., video materials that have been made for entertainment or informational purposes rather than ones designed specifically for language teaching and learning. Although there are numerous subscription VOD services available worldwide, including Amazon Prime Video, Hulu, and YouTube Red, Netflix has best leveraged the changing viewing habits of consumers to become the leader in the subscription VOD market (Ingram, 2017). Despite the potential advantages of subscription VOD for L2 learners such as greater access to authentic video and enhanced mobility, there have been no empirical studies on their use with foreign language students. Therefore, this study seeks to fill this gap in the literature by examining Japanese English as a foreign language (EFL) learners' perceptions and usage habits of Netflix in the context of L2 learning.

2. Literature review

Watching authentic video materials comes with a variety of advantages for L2 learners. As King (2002) noted, films provide learners with a meaningful context for language learning, while addressing issues that are relevant to the lives of students. In a study investigating the effects of movies on EFL learners in China, Qiang, Hai, and Wolff (2007) determined that films offered four key benefits for students: (1) improved pronunciation and intonation, (2) exposure to idioms, (3) assimilation of English sentence structure, and (4) knowledge of the target culture. Similarly, Lin and Siyanova-Chanturia (2014) stated that Internet television gives learners opportunities to listen to and observe authentic English while also enabling them to contextualize vocabulary acquisition. Based on the results of a questionnaire administered to EFL students in Hong Kong, Chapple and Curtis (2000) concluded that viewing English films promoted the development of English speaking and listening skills as well as the confidence of the learners in the study.

Much of the research on authentic video and L2 learning has focused on the use of subtitles. As Vandergrift and Goh (2012) note, studies suggest that the use of subtitles supports vocabulary learning and listening comprehension. However, they are also quick to point out that it is not known if improvements in comprehension are the result of listening or reading, i.e., one of these forms of input (aural vs. visual) may be more salient in terms of L2 comprehension. Yet despite this, and some of their perceived drawbacks (King, 2002; Winke, Gass, & Sydorenko, 2010) Vandergrift and Goh (2012) assert that subtitles play an important role in L2 learning. A study by Bianchi and Ciabattoni (2008) reflects this by illustrating the positive effects that subtitles can have on L2 learners. The researchers investigated the short- and long-term effects of subtitles on L2 English students in Italy, and found that learners who viewed two English films with L1 subtitles performed better at short-term comprehension tasks than those who viewed the movies with L2 subtitles or no subtitles, regardless of the proficiency of the learners. However, the researchers found that the no subtitles group achieved higher scores on a vocabulary test taken directly after viewing. This trend also continued when Bianchi and Ciabattoni (2008) looked at short-term language in-use, with no subtitles outperforming both L1 and L2 subtitles. In terms of long-term vocabulary improvements, students who viewed the movies with either form of subtitling were able to learn and retain more new vocabulary than those who watched with no subtitles, with the L2 subtitle group having slightly higher scores. When it came to intermediate and advanced learners, L2 subtitles also aided students to a greater degree than L1 subtitles and no subtitles on long-term language in-use, whereas beginner learners benefited from no subtitles the most.

In a similar study, Markham, Peter, and McCarthy (2001) examined the impact that L1 subtitles, L2 subtitles, and no subtitles had on L2 Spanish learners' comprehension of an excerpt from a DVD. Each student viewed the video under one of the conditions and an assessment consisting of a written summary and multiple-choice questions was administered to measure comprehension. While both subtitle groups outperformed the no subtitles group, the results revealed that those who watched the videos with L1 subtitles were able to comprehend the content significantly better than the L2 subtitles group.

Montero Perez, Peters, Clarebout, and Desmet (2014) investigated the effects of four L2 subtitle conditions on L2 French learners: no subtitles, full subtitles, keyword subtitles, and full subtitles with highlighted keywords. The participants watched short video clips taken from French current affairs programs and then took vocabulary and comprehension tests to assess the impact that the conditions had on the students. To the surprise of the researchers, Montero Perez et al. (2014) found that all the conditions had similar effects on comprehension. In terms of incidental vocabulary learning, the subtitle groups performed significantly better than no subtitles when it came to form recognition and clip association. However, no significant differences were found between the groups as it pertained to meaning recognition and recall, which casts some doubt on the overall effectiveness of subtitles.

Guichon and McLornan (2008) also examined the effectiveness of differing modalities with L2 learners. A total of four groups of English students took part in the study: (1)

audio only, (2) audio and image, (3) audio, image, and L1 subtitles, and (4) audio, image, and L2 subtitles. The study investigated the L2 English learners' ability to understand an authentic BBC audiovisual recording. It was found that the groups who had access to subtitles scored the highest when it came to comprehension, with the L2 group outperforming the L1 group. The researchers concluded that the use of L1 subtitles may cause lexical interference due to the fact that the visual information did not match the aural input.

Winke et al. (2010) also examined the effects of the use of target language subtitles and no subtitles with L2 learners of Spanish, Russian, Chinese, and Arabic. The learners viewed three short L2 documentaries and afterward, took vocabulary and comprehensions assessments. The participants in the study who used L2 subtitles had significantly higher vocabulary and comprehension scores than those who did not. Additionally, Winke, et al. (2010) collected qualitative data in the form of interviews and were able to identify five themes related to the use of subtitles and L2 video: (1) language students benefit from multiple modalities, (2) subtitles reinforces aural language, (3) subtitles encourage the analysis of language, (4) subtitles influence how learners pay attention to input, and (5) subtitles can be used as crutches. The last two themes echo potential drawbacks of subtitles described by King (2002), who stated their usage could lead to overreliance as students may focus on reading instead of listening to the spoken dialogue.

In another study which involved L2 English students, Mitterer and McQueen (2009) looked at the use of L1/L2 subtitles in movies with regionally-accented English. The learners viewed either an episode of the Australian sitcom *Kath & Kim* or a 25-minute portion of the movie *Trainspotting*, which was set in Scotland. Students who watched with L2 subtitles were able to adapt and reproduce regional accents more accurately than those who viewed with L1 subtitles or no subtitles. In fact, the no subtitle group outperformed the L1 subtitle group when it came to new items or words which did not appear in either *Kath & Kim* or *Trainspotting*, which suggests that L1 subtitles may hinder L2 lexical adaption.

In summary, authentic video in the form of TV programs, films, and online videos offer students numerous benefits including exposure to authentic input, improved speaking and listening skills, as well as contextualized vocabulary acquisition (Chapple & Curtis, 2000; King, 2002; Lin & Siyanova-Chanturia, 2014; Qiang et al., 2007). Also, the use of authentic video with L1 subtitles seems to help language students adapt to regional L2 accents (Mitterer & McQueen, 2009). Lastly, although the use of subtitles with authentic video has generally been more effective at improving L2 vocabulary and comprehension than no subtitles (Guichon & McLornan ,2008; Markham et al., 2001; Montero Perez et al., 2014; Winke et al, 2010), there seems to be conflicting results regarding which form of subtitling best promotes L2 learning, (Bianchi & Ciabattoni, 2008; Montero Perez et al., 2014). Even though literature provides a case for the use of authentic video, to the best of the author's knowledge, there have been no studies investigating subscription VOD in the context of L2 learning. Therefore, the following research questions were addressed to examine the use of Netflix with L2 students:

- What are EFL learners' opinions of Netflix for L2 learning?
- To what extent do EFL learners use Netflix for L2 learning?
- How often and by what means (mobile device or desktop computer) do EFL learners access Netflix?

3. Methodology

3.1. Research design

The present study utilizes a mixed method case study design. According to Hays (2004), case studies "involve the close examination of people, topics, issues, or programs" (p. 218). In context of this study, the people involved were Japanese university EFL students and the topic examined was the use of Netflix for language learning. The quantitative aims of the study were twofold: to investigate the frequency and the method in which the participants accessed Netflix and to analyze the types of titles, specifically, L1 or L2, the participants viewed. Qualitatively, the study looked at

the learners' opinions Netflix for L2 learning according to criteria developed by Hubbard (2009).

3.2. Participants

A total of nine Japanese EFL students in the Department of Foreign Studies at a private university provided written consent to participate in the study. The learners were enrolled in a class entitled Communicative English during the spring and fall semesters of 2016. At the end of the spring semester in July, the students were given an orientation on the goals of the study, the types of data that were to be collected, and the features of Netflix. Each student was provided with a Netflix account and password at this time and was given time to familiarize themselves with the Netflix website through the desktop computers in the classroom. Following the initial training session, the learners were given three months to use Netflix freely, without any obligation to watch TV shows or movies through the video streaming service.

3.3. Data collection and analysis

Three types of data were collected in this study: access history, viewing history, and interviews. Access history refers to how often the students used Netflix. This data was broken down according to the frequency in which the learners accessed the streaming service during each month of the study. It also pertains to the means they used to access the service, that is, via smartphone or desktop computer. Viewing history is made up of the number of TV episodes or films the participants viewed and the language the programming was based on, i.e., L1 or L2. The students' views towards Netflix were collected in October after the students' Netflix memberships had expired through semi-structured interviews where the following questions were asked:

- What do you think are the advantages of using Netflix to learn a foreign language?
- What do you think are the disadvantages of using Netflix to learn a foreign language?

One of the students was not able to attend an interview so this data was based on interviews with only eight of the participants. The interview data was audio-recorded, transcribed, and analyzed according to six criteria developed by Hubbard (2009), which can be used to determine the effectiveness of CALL on L2 learning: (1) learner efficiency, (2) learner effectiveness, (3) access, (4) convenience, (5) motivation, and (6) institutional efficiency. While these factors may be enhanced through the usage of technology, Hubbard (2009) also cautions that CALL may impede the language learning process in the aforementioned areas.

3.4. Netflix

Although it has several prominent competitors such as Amazon Prime and Hulu, Netflix is the leader in the subscription VOD market with over 109 million global members (Netflix, 2017). Not only does it have the most subscribers worldwide, it also spends the most on original content, an important factor considering the increasing costs of movie and TV show licensing, which restricts the available titles of subscription VOD services. Citing statistics from JPMorgan, Molla (2017) states that Netflix will spend $6 billion in 2017 on producing original content, which is $1.5 billion more than its closest competitor, Amazon Prime Video. This emphasis on original programming combined with its aggressive expansion into 190 countries has resulted in Netflix producing content in variety of languages, including Japanese, Russian, Mandarin, Spanish, and German, which makes it potentially useful as a language learning tool. Moreover, the inclusion of L1/L2 subtitles makes Netflix accessible to even beginner learners, which is important due to the cognitive load necessary for learners to understand L2 video (Sydorenko, 2010).

4. Results

4.1. RQ#1: What are EFL learners' opinions of Netflix for L2 learning?

Four themes were identified from the interview data based on Hubbard's (2009) criteria for evaluating CALL (see Table 1 for descriptions). Firstly, interview comments suggest that learning effectiveness was enhanced because of Netflix. As Table 2 depicts, all eight

of the interview participants commented that the video streaming service helped them obtain valuable L2 knowledge, particularly when it came to vocabulary learning through the use of L1/L2 subtitles. Another theme that was gleaned from the participants' comments was the potential for Netflix to increase L2 motivation, as three of the students noted that Netflix was a fun and enjoyable way to study English (Table 3). The third theme that was inferred from the interview data was better access to L2 knowledge. The first two comments in Table 4 suggest that the students were exposed to pragmatic knowledge in the L2, that is, the understanding of how to use language in particular contexts and situations. Furthermore, the third comment in Table 4 reveals that language learners can use Netflix to study foreign languages other than English. In other words, L2 students may have better access to authentic input in a variety of languages through the video streaming service. The final theme that was identified through the interview data pertains to convenience. Comments by five of the students suggest that convenience was hindered due to the amount of Internet data required in order to stream video through the service (Table 5). Consequently, the participants' usability of Netflix was restricted, leading most of them to watch video through their smartphones only when Wi-Fi was available.

Table 1. Interview themes based on Hubbard's (2009) criteria.

Theme	Description
Learning effectiveness	Learners retain language knowledge or skills longer, make deeper associations and/or learn more of what they need.
Motivation	Learners enjoy the language learning process more and thus engage more fully.
Access	Learners can get materials or experience interactions that would otherwise be difficult or impossible to get or do.
Convenience	Learners can study and practice with equal effectiveness across a wider range of times and places.

Table 2. Student comments related to learning effectiveness.

Netflix has many functions, for example, different languages and subtitles. I use Netflix with English and Japanese subtitles. So maybe I can improve my listening skills. I can learn the actors' words and know their meanings. I can learn how to use words.
Studying with Netflix I can see subtitles in English but when I see other movies on the Internet I can't see subtitles so I can't understand what they say. But with Netflix, I can see subtitles so I can understand.
I can use both Japanese and English and then in fact I can see the meaning on the screen. I listen to English and the subtitles are Japanese. By listening to English I can learn the pronunciation and at the same time I can know the meaning of the words. I want to know the meanings quickly and simply so I use subtitles in Japanese.
I think it is a good way to help us learn English and also it has subtitles so it can help us catch the words and we can learn some phrases and slangs.
I learned slang but some of them are difficult for me to understand but it is good learning for me.
Simply, my listening skills have improved a little than before summer vacation. Maybe I could learn some words which were used many times in this drama or other movies. I could catch them more easily than before. I heard "complicated" a lot in their conversations. I didn't use the word in conversations with someone but I could know it is a common word in America or in English so maybe I can use it from now on.
I can watch movies and if I don't know the meanings of words in English I can check the Japanese. I watch the movie in English with English subtitles and after I finish it I watch it again with Japanese subtitles to understand the meaning. I can learn the English spelling of words and slang.
I think Netflix's quality is better than YouTube and other sites because I can choose the language and subtitles, English or Japanese.

Table 3. Student comments related to motivation.

I think with Netflix I can learn English in a fun way because Netflix has many interesting movies and dramas. It's so useful so I can learn English positively.
We can choose our favorite movies or TV shows and because we are interested in these movies or dramas we can keep watching. And most of them have many episodes so I think it is a good way to help us learn English.
Netflix is very enjoyable.

Table 4. Student comments related to access.

The big advantage is I can learn how to speak and use English in certain situations. I mostly watched *House of Cards*. It is about the American White House and learned about culture in America. I learned how to work in the US and about working attitude so it is good for me. The advantage is that I learned about culture.
I could know how to use English phrases in particular situations. With my friends, there are some situations [where I can use English] but usually I talk in English with teachers only in class. So, these are formal situations for me since teachers are higher than me so I wanted to know more informal situations. So, I mostly watched the drama *Pretty Little Liars*. It's a school situation so I could know their conversations with family or friends. So that was the biggest good point for me.
I can watch movies not only English but other languages, for example, I watched a French movie in French one time.

Table 5. Student comments related to convenience.

I watched in McDonalds because there was Wi-Fi so the disadvantage of Netflix is it uses too much data so I couldn't use Netflix with 4g data.
If I use Netflix without Wi-Fi, my Internet is very slow so I only use Netflix with Wi-Fi.
I only use Netflix with Wi-Fi because movies are very long so it uses a lot of data.
I used Netflix at school because there is Wi-Fi. My 4g connection is not good so the school is the best place to use it.
I have a smartphone but I don't have Wi-Fi at home so I watched with a PC which was connected with a LAN cable. So, I only watched at home.

4.2. RQ#2: To what extent do EFL learners use Netflix for L2 learning?

Figure 1 below illustrates the percentage of English, Japanese, and other language titles viewed by the participants. Nearly two-thirds of the programming viewed were English-based (n = 230), while over one-third of the titles were Japanese-based (n = 138). Only one percent or four titles were based on a language other than the L1 or L2.

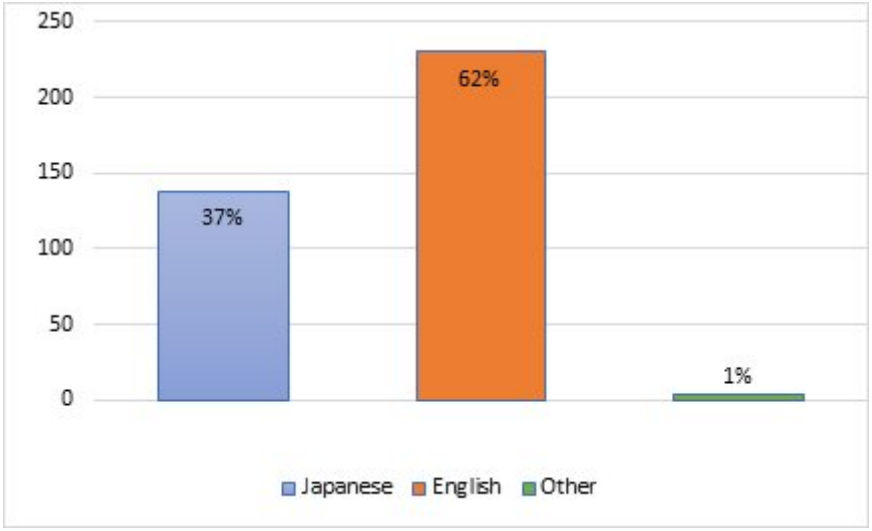

Figure 1. Breakdown of titles viewed according to language.

4.3. RQ#3: How often and by what means (mobile device or desktop computer) do EFL learners access Netflix?

Figures 2 and 3 depict the frequency and the means by which the participants accessed Netflix during the course of the study. Usage of the video streaming service was moderate during the first month, with the students accessing it 70 times during this period. The second month was by far the most popular period in which the students used Netflix, as it was accessed a total of 129 times. However, usage dropped off considerably after that, as the video streaming service was accessed only 44 times by the participants during the final month of the study. In terms of viewing method, the students preferred using mobile devices to computers, with the participants accessing Netflix with a mobile device more than 90% of the time.

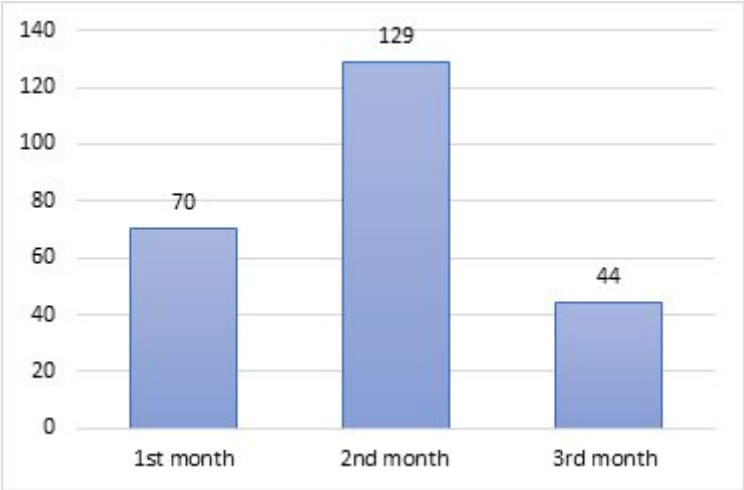

Figure 2. Monthly usage of Netflix.

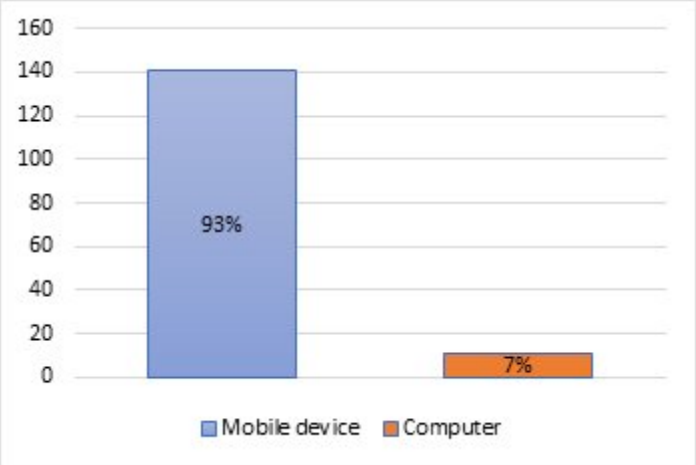

Figure 3. Netflix viewing method.

5. Discussion

A total of four themes were identified from the student interviews according to Hubbard's (2009) criteria. The first was enhanced learning effectiveness. While L2 video may be difficult for students to comprehend (Sydorenko, 2010), L1/L2 subtitles can ease this burden and make unfamiliar vocabulary more understandable for learners. These results echo previous findings on authentic video (Chapple & Curtis, 2000; King, 2002; Lin & Siyanova-Chanturia, 2014; Qiang et al., 2007) and reinforce its potential to foster L2 development through exposure to meaningful and understandable input. Increased L2 motivation was also identified as one of the themes based on the interview data. According to Lin and Siyanova-Chanturia (2014) Internet video "is more likely to appeal to learners from all proficiency and motivation levels; even learners with low L2 proficiency and low motivation to learn English will enjoy watching Internet television because it is, after all, entertaining," (p. 4). While there is some debate regarding its

significance in the context of language learning (Masgoret & Gardner, 2003), Dörnyei (1998) asserts that motivation is the catalyst that enables students to maintain and eventually reach their language goals. Without it, learners may not be able to achieve success in a L2, even if they possess the language aptitude to do so (Gardner & Lambert, 1972). Given this, the potential of Netflix and other VOD services to increase L2 motivation should not be overlooked. Better access to L2 knowledge, specifically, pragmatic knowledge and foreign language input, was an additional theme identified from the participants' responses. As Bardovi-Harlig and Dörnyei (1998) point out, there is often a stark contrast between the pragmatic ability of L2 learners and native speakers. According to Kasper (1997), this may be due to the limited range of input learners receive in the L2 classroom. Therefore, video streaming services may be able to fill this gap in learners' L2 knowledge and provide them with exposure to authentic input in a variety of situations. Moreover, Netflix produces programming and offers subtitles in multiple languages; thus, offering non-English L2 students access to meaningful input in their language of study. Although there is an abundance of resources on the Internet available to English learners, obtaining quality input outside of the classroom is often a challenge for L2 students of less studied languages (Lanvers, 2014). The fourth theme identified from the interviews was hindered convenience due to mobile data costs and restrictions. This suggests that students may avoid using VOD services if Wi-Fi is unavailable, which is in line with the results of Lu (2008) and Stockwell (2010) who found that the costs associated with mobile Internet can constrain the usage of mobile devices by L2 learners. While this may be true, Netflix has taken a step to alleviate this issue since the conclusion of the study. Users can now download select movies and TV series through the mobile app. Although many titles still cannot be downloaded, the ability to view video via smartphone without using cellular data has the potential to enhance the usability and convenience of Netflix for L2 learners

As stated previously, English titles were viewed nearly two times as often as L1 programming, which indicates that the learners took advantage of the additional opportunities to gain more knowledge about the target language and culture through Netflix. Japanese or L1 titles were still viewed frequently, which signifies that the students also used the VOD service for entertainment purposes. Lastly, although only a very small fraction of the total titles viewed were not based on English or Japanese, the fact that a few of participants watched L2 programming in languages other than English demonstrates that video streaming services can be used to study less studied foreign languages.

According to the access data, the learners used Netflix the most during the second month of the study. The most likely explanation for the high rate of usage of Netflix during this month is that the learners were on their summer vacation at this time, whereas the first and last months of the study coincided with the final exam period and the beginning of the fall semester. This finding suggests that despite its perceived advantages, students may not be able to use VOD services for language learning purposes if they have other responsibilities in their lives that take greater priority. This may limit the number of language learners willing to use these services given that they require paid monthly subscriptions.

Furthermore, the participants accessed Netflix most often through their mobile devices, which suggests that the students preferred mobility and convenience over screen size when viewing L2 video. According to Walters (2012), this preference for mobile technology symbolizes how Internet users' habits are shifting from PC's to mobile devices:

The transition from a PC or notebook to the 'always on' smart phone or tablet is not primarily about the smaller, more portable, mobile device. It is rather about the fact that computing services are now available virtually wherever and whenever the user desires them (p. 2).

The ability to access Netflix anywhere and anytime via mobile device affords learners much greater convenience than traditional DVDs, not only in terms of portability, but also in terms of the myriad of titles available for viewing. While DVD users are constrained by the number of discs they have at any given time, the only factors

limiting subscription VOD users are mobile data and the titles available in a particular streaming service.

6. Conclusion

Subscription VOD services such as Netflix offer a variety of benefits for L2 learners. Based on the comments of the participants in this study, those advantages include exposure to L2 vocabulary, increased L2 motivation, and access to pragmatic knowledge in the L2. Nevertheless, the convenience of the streaming service may be constrained due to mobile data restrictions and costs. In addition, the viewing data indicates that the students did not simply use the video streaming service for entertainment purposes, demonstrated by the fact that over 60 percent of the titles viewed were based on the L2. However, according to an analysis of the access data, EFL students may not be able to view extended L2 video such as TV shows or movies if they do not have sufficient time or mobile data to do so. With that said, the ability to download titles may enable students to use Netflix across a greater range of times and places, thereby increasing the number of opportunities learners have to use the streaming service. Lastly, the results of the study suggest that the learners prefer watching L2 video through their smartphones and tablets, illustrating the current shift away from desktop PCs to mobile technology. Despite these findings, much more research needs to be done on the use of subscription VOD with L2 learners to better understand how these types of services can influence the language learning process.

This study has several limitations that need to be addressed. First, the small sample limits the generalizations that can be made from the findings. Therefore, future research ought to incorporate a larger group of students taken from a random sample. Moreover, this study did not investigate if the learners actually made improvements in language ability. Given the potential for Netflix and other VOD services to promote vocabulary development, it would be worthwhile to see if L2 students can make lexical gains through their use in a longitudinal study. Lastly, the ability to download subtitles to a mobile device, which was not available during the study, could greatly affect students' usage of Netflix and consequently, increase its usefulness to L2 learners. Thus, it would be interesting to see if learners' viewing patterns would drastically change due to the inclusion of this feature.

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Research paper

Interlanguage or Technology when Using English as a Vehicular Language: what influences students productions online?

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Abstract

This article seeks to explore what influences the production of accurate online written texts in English by speakers of Spanish. In order to do so, the cases where the pronoun "I" is not capitalized have been examined in detail to determine whether we are facing an error due to a lack of proficiency or whether the use of ICT is to blame. After going through the cases of "i" and observing the other mistakes made in the texts where they appear, ICT together with lack of proofreading, and interlanguage seem to be the possible answers. Although we can establish the use of technology and, therefore, Computer-Mediated Communication (CMC) as the cause of most cases in analogy with what happens with native speakers, further investigation is needed and new research with similar control groups where explicit corrective feedback is given could give us more clues about the behaviour of the participants.

Keywords: Interlanguage, English as a vehicular language, ICT, proofreading, corrective feedback.

1. Introduction

Now that the use of technology in teaching is a fact, teachers must deal with an added problem: the mediation of a machine when the student writes. At first sight, this may not seem important, but, in fact, it is so. Before the arrival of computers and the internet, the student relied on a pen when doing written tasks. Since computers came to the scene, text processors are in charge of most proofreading and any badly written word is immediately underlined. Even though useful and timesaving, autocorrected texts imply that students skip a step and spelling and grammar are left to the criteria and expertise of the program. Students are so used to that process that they rarely revise their texts the old way, dictionary in hand. However, when doing online tasks, the support of the word processor disappears, and the students just rely on the tips of their fingers. The result is an apparently careless text, which darkens the quality of the written production leaving a possible good content hidden behind poor grammar and punctuation. Now, let us include another factor: the use of a foreign language (FL). When learners of a foreign language use it as a vehicular language in the classroom, they are expected to make mistakes due to their lack of proficiency. The interlanguage theory (Selinker, 1972; 1992) plays an important role in the written productions of speakers of a FL and this is reflected in the way they combine their knowledge about the FL grammar and vocabulary and what they know about their L1 that can fit in the new paradigm. The problem is that, sometimes, technology and language learning influence written production in the same areas to such an extent that it is difficult to discern the real cause of the interference.

This paper analyses the influence of both interlanguage and technology in Spanish speakers of English as a FL taking as an example the lack of capitalization of 'I'. After

observing an online learner corpus, some participants seem to have problems capitalizing this pronoun. This, prior to further observation, seems to be an example of the influence of the students' L1. However, the fact that these are written productions in an online forum, the role of Computer-Mediated Communication (CMC) turns out to be decisive for a better understanding of the failure. Thus, it is necessary to revise the concepts of interlanguage and error analysis and add the variable of information and communication technology (ICT). After a preliminary study on the topic (Torrado-Cespón & Font-Paz, 2016), the authors concluded that further research on the topic was necessary with a more detailed analysis of the cases.

2. Objectives

The objective of this paper is to analyse the online written productions of university students who do not capitalize the first person singular pronoun and to find a solution to prevent it. As a consequence, highlights the need to advise students to pay attention to their output when writing online. To do so, it is necessary to evaluate the two different factors that influence the written productions of these students. First, the role of interlanguage (Selinker, 1972; 1992) as a common cause of learners' errors while the learning process has not finished and, on the other hand, the use of ICT as a medium. So, as the English first-person singular pronoun does not follow the same rules as in the first languages the subjects in this corpus use on a daily basis (Basque, Catalan, Galician or Spanish), both factors are to bear in mind when writing online without a word processor. The results can offer us, as teachers, some considerations about the possible solutions we can offer in the classroom or, as is the case when the FL is the vehicular language of the subject, when ICT enters the scene.

3. Literature review

The role of error analysis is really important when teachers want to categorize the types of failures students commit. Through this analysis, they can observe thoroughly the strategies and the patterns used by students and, thus, help them to fix the problems they may have when writing in the FL (Erdogan, 2005, p. 269). When the students start to express themselves fluently in the new language, it is important not to overcorrect their production in order to avoid demotivating them. Teachers must never forget that their role is that of facilitating learning, not placing obstacles which can delay it. They can never forget that errors are a natural part of the learning process (Corder, 1981, p. 25). Therefore, dealing properly with the errors and mistakes is an important part of language instruction. Sometimes, the teacher needs to be explicit about the failure. However, there are instances where the error is self-corrected with enough correct exposure to the target language (TL). Error analysis is a particularly useful mechanism when we, as teachers, want to understand the mistakes our students make and be able to find a solution catered to the learning needs they may have. In addition, sharing error analysis results with other professionals involves the creation of an ever-growing source of possible solutions for common learning problems we can face in the classroom in a given moment. Error analysis becomes, therefore, a tool that not only helps the students of a particular teacher in a given country and level, but a set of ideas any FL or SL teacher around the world can extrapolate to her/his actual case.

In the sample used for this research, where we are dealing with the use of the FL language in a subject where it is not being taught but used as a vehicular language, students feel more relaxed and, sometimes, forget about the correctness and the attention they would pay in the case of a specific foreign language class. In this study, the teacher is also dealing with online instruction, plus the particular character of a forum, which is supposed to be nearer informal spoken language than to formal written language. Even though the example used suggests interlanguage (Selinker, 1972; 1992) as the main source of errors when students use the FL as a vehicular language, sometimes the teacher must pay attention to other factors influencing production. Consequently, it is necessary to revise the concepts that may influence this type of written production, namely, interlanguage and ICT. After doing so, it is interesting to assess the relevance of given corrective feedback to these students as a way of preventing them from repeating the same mistake.

3.1. Learners and interlanguage

Interlanguage failures are characterized by the misuse of the language due to the influence of the speaker's L1. These errors are part of the natural process of learning a language (Corder, 1981). At first glance, the non-capitalization of the pronoun 'I' in the written production of students whose L1 or L2 is not English can be considered as normal. The participants in these written productions share Spanish as a L1 or L2 and the first person singular pronoun does not need capitalization in this language. Thinking about the principles of interlanguage, the concept of interlanguage error makes sense. Thus, the students apply the same norms they have in Spanish as it makes sense and it does not affect the meaning they want to convey. However, although both languages use pronouns and all pronouns except this one do not need capitalization, the fact that it is a widely used pronoun and it is one of the first rules the students learn when teachers explain written English makes us doubt that interlanguage is the actual cause.

It has to be taken into account that learning a language once our L1 or L2 is well established is a conscious process. Theory tells us that learners will export from the L1 to the FL what makes sense as long as the process lasts (Lado, 1990; 1991, p. 15) and, therefore, they will make mistakes. Selinker (1992, p. 151) states that these mistakes are systematic and help learners to build hypotheses, as happens for example, in our L1 when we are children. These hypotheses, when they receive the correct feedback, are proved and amended by the speakers themselves when exposed to the proper amount of correct input. However, when the FL is learnt in adulthood or after puberty, learners will achieve similar proficiency with difficulty (Bever, 1981). The well-known theory of the critical period stated by Lenneberg (1967) also applies to L2 or FL acquisition or learning. Consequently, the older the student, the larger the number of mistakes. On the other hand, the older the learner, the more conscious the process is, so they are more aware of the rules governing the new language. The participants in this corpus have learnt English in different periods of their lives, so their production should be analysed in detail in order to discern whether interlanguage plays such an important role.

3.2. Writing and ICT

In order to understand the role of ICT in writing, handwriting needs to be revised first. Handwriting is a rather complex task requiring one to one correspondence between the movement of our hand and the resulting shape. In order to achieve proficiency in handwriting, we practise since our first school days and we keep improving it until we reach adulthood. If not practised often, our handwriting decays. When typing on a keyboard the process is rather different. First, the subject recognises the character in the keyboard and then memorises its position, so s/he does not need to look at it when writing. Typewriting has more to do with visuomotor ability than visual recognition once it is established, it is less precise and makes the relationship between the input and output more abstract and disconnected (Velay & Longcamp, 2012, p. 371; Magen & Velay, 2014, p. 76). In fact, when teaching characters to any age group, recognition is easy if they have practised them using pen and paper before using a keyboard (Velay & Longcamp, 2012, p. 372). Therefore, when using ICT the writing system is simpler and less demanding in terms of processing.

When ICT enters the scene, the complex processes involved in handwriting is underestimated and the results are texts that do not follow either grammatical or typographical rules. The misuse of typography (lack of commas, multiple question marks and so on) is another way of giving texts an untidy aspect not suitable for an academic setting. This use of non-standard typography in ICT contributes largely to undermine literacy (Zelenkauskaite & Gonzales, 2017, p. 86). When looking specifically at capitalization, we find the studies of Wood et al (2014) in native English speakers. They noted how the use of either 'i' or 'I' was common in text messages. In fact, capitalization and punctuation inaccuracies where the most common in any age group (Wood et al., 2014).

The use of ICT influences both the written productions of native speakers and learners and, even though its nature is different, the resulting mistake can be the same as in a case of interlanguage influence. The language found in chats or other synchronous ways

of internet communication tends to be simple and abbreviated. Crystal (2004) noted that capitalization is often ignored in this type of conversation, even for 'I'. When analysing online fora, such as the corpus in this study, in an academic setting, the teacher expected to find more formal language. These forum posts are part of an academic subject where, even though perfect grammar is not the main objective, students have to show accurate written productions. However, mistakes are also present in this non-synchronic online communication giving, as a result, a careless appearance and undermining the real value of the task.

4. Corrective feedback

When students commit errors (systematic failures) or mistakes (occasional wrong use) teachers must think about a way of solving it. It is necessary to state that mistakes cannot really be prevented in language use as they are not related to the learning process of the target language (Torrado-Cespón & Díaz-Lage, 2017). Therefore, teachers have to think about the most suitable way of making students aware of the incorrect forms in their written productions. Giving or not giving corrective feedback (CF) to learners is a complicated issue. First, let us consider using corrective feedback. An appropriate warning about what to correct seems to be useful from the point of view of the learner, as it states clearly where to direct attention. However, CF can be a double-edged sword, especially if it is explicit CF. Even though the student becomes undoubtedly aware of the mistake, the processing is minimal, so, in a long-term scenario, it can be negative (Ellis, 2008: 99). Indirect feedback seems to suit the actual needs of language learning. In the same way, student acquisition is better if the teacher uses negotiation of meaning instead of translation, indirect feedback is more effective in the analysis of written production as the processing is more demanding (Ellis, 2008: 100).

5. Participants and data

The term under scrutiny in this paper is 'I'. In English, this term is always capitalized. However, some of the students involved in this study, and who provided written work for the corpus, seem to have forgotten this. The misuse of this pronoun due to an interlingual problem seems rather odd, as students are aware of this pronoun's characteristics since the very first moment they start learning written English.

The ENTERCOR corpus was compiled using the online forums from different subjects at Universidad Internacional de La Rioja and it is divided into two sub-corpora, TICOR and TRAINCOR, with a total of 470,088 word tokens. This study analysed the occurrences of the pronoun in the first sub-corpus. This sub-corpus is divided into two more components (Table 1). Both components collect posts from the compulsory forums of ICT Tools Applied to the Learning of English, a module from the English teaching specialty for pre-school education and primary education. In these fora, learners express their opinions regarding a topic suggested in the syllabus and debate it amongst themselves, with no intervention from the lecturer. The participants, males and females, are all over 18 and their level of English varies from B1 to C2.

Table 1. Sub-corpus TICOR.

	Component 1: ICT	Component 2: TIC	Corpus TICOR
Number of participants	155	511	620
Word types	4,816	9,320	14,136
Word tokens	107,042	317,759	367,790
Occurrences of 'I'	2,139	7,716	9,855
Occurrences of 'i'	18	157	175

The use of proper capitalization is something that not only worries the EFL teacher, it is a native speaker problem too, as observed by Wood, Kemp and Waldron (2014). We are dealing with a mistake that seems to be two-faced: the student does not know the English norm for capitalization of the first person singular pronoun or the student, in spite of being aware of the rule, does not apply it in a digital environment.

6. Method

The fact that such an error appears in a corpus that collects the written production of future English teachers can be considered as a clear indicator of the influence of CMC. If not, we have to face the fact that these students are still not ready to teach EFL. The non-capitalization appears in a relatively low number of participants, so their productions need deeper analysis. In order to do this, these specific productions were scrutinized according to two groups of variables: *technology to blame* and *lack of proficiency*. The variables are the following:

- Technology to blame:
    - Misspellings due to proximity: some words are spelled wrong because the character used appears next to the correct one in the keyboard: 495TOENTICA *ususally*
    - Missing spaces: the student forgets to press the space bar after a full stop, comma and other punctuation signs or between words: 69TOENICTB *teacheasier*
    - Non-capitalization sentence initial: the student forgets to press the caps lock. 183TOENTICB *what* do you think about it?
    - Non-capitalization of proper names: 32TOENICTA videos about *muzzy*
- Lack of proficiency:
    - Misspellings due to lack of awareness: 509TOENTICB *evalluating*
    - No verb marks: either past, participle or third person singular present: 40TOENICTB each situation *require* us
    - Ungrammatical constructions: from direct translation of Spanish expressions to sentences which make no sense. 495TOENTICA So we, *like a* teachers need to do *curses*

After taking a look at the productions, a new variable seems to be necessary for a deeper understanding, the non-capitalization of words which differ from the students' L1. This cannot be included in either of the groups as it presents a similar error as in the case of "I". It is also important to check whether the participant capitalizes the pronoun on some occasions but that s/he is not constant throughout the text.

The learners' posts were first analysed through corpus analysis software (AntConc 3.2) and then through a careful reading of the utterances where the studied term appeared. In order to analyse the pronoun "I", it is also necessary to take a look at other possible similar mistakes. As a consequence, it was necessary to analyse the lack of capitalization in words which differ from the students' first language and also after full stops. After recounting all the occurrences of the term, they were analysed individually in context and subjected to statistical analysis. After these processes were performed, we were in a position to decide whether this is an interlanguage issue or whether technology plays a role.

7. Results

After going through the posts in the sub-corpus, we can observe that most participants use both the incorrect and the correct forms of the pronoun. The 54 participants of the ICT component who make the mistake use 'I' in 157 (25.79%) out of 597 times where the pronoun appears both correctly and incorrectly. In the case of the 9 participants of the ICT component, the numbers are 18 (24.65%) out of 73. Therefore, as the results are rather similar, both components can be treated as a whole from now on.

The percentage of non-capitalization of the pronoun among these 63 students seems to be rather high to be ignored. It is obvious that they only represent a small part of the whole corpus, as stated in table 1, but this small fraction is supposed to have a rather

good command of the language. After applying the variables proposed in the Methodology section, the results are as follows (table 2):

Table 2. Percentages and frequencies.

	YES % / Frequency	NA % / Frequency
Misspelling due to proximity	38.10 / 24	
Missing spaces	22.22 / 14	
Non-capitalization (sentence initial)	39.68 / 25	
Non-capitalization (proper names)	3.17 / 2	22.22 / 14
Non-capitalization (words which differ from L1)	25.40 / 16	46.03 / 29
Misspelling due to lack of awareness	25.40 / 16	
No verb marks	11.11 / 7	
Ungrammatical constructions	55.56 / 35	

At first sight, it seems we are dealing with a case of low level in most cases, as 55.56% of the subjects show ungrammatical constructions. Within this variable, it is necessary to analyse the type of mistakes that the subjects with low grammar performance make (table 3):

Table 3. Errors within the variable ungrammatical constructions.

	YES % / Frequency	NA / Frequency
Non-capitalization (words which differ from L1)	25.4 / 9	42.85 / 15
Misspelling due to lack of awareness	37.14 / 13	
No verb marks	17.14 / 6	
Misspelling due to proximity	31.42 / 11	42.85 / 15
Missing spaces	25.71 / 9	
Non-capitalization (sentence initial)	48.57 / 17	
Non-capitalization (proper names)	0 / 0	14.28 / 5

It is obvious when comparing table 3 to the numbers in table 2 that most of the failures are within the group of students that show ungrammatical constructions. So, taking into account these results within *Ungrammatical constructions*, it is necessary to look at them from the perspective of the total number of errors (table 4):

Table 4. Errors in all variables which appear within ungrammatical constructions in relation to the total numbers.

	%
Non-capitalization (words which differ from L1)	56.25
Misspelling due to lack of awareness	81.25
No verb marks	85.71
Misspelling due to proximity	45.83
Missing spaces	64.28
Non-capitalization (sentence initial)	68
Non-capitalization (proper names)	0

Thus, we can consider that the use of ungrammatical constructions and, therefore, a low level of English, also implies a lack in other areas which show that the student is still learning the language. This type of mistake could be addressed to the influence of interlanguage in some cases (non-capitalization of words which differ from L1), intralanguage (misspelling of words like "evalluating" in analogy with words like "ebullition") and to lack of knowledge (lack of verb marks).

It is also obvious that the use of ungrammatical constructions is also related to the misuse of basic norms in writing, either in the students' L1 or in the FL. However, this makes us, as teachers, think that a large number of ungrammatical mistakes are also related to the lack of proofreading. So, even though the problem seems to be that of low level and thus, lack of knowledge, taking a closer look, the fact that almost 40% forget to capitalize words when they are sentence initial is clearly derived from a deficiency or even non-existent revision. It is necessary, therefore, to take a look at the other participants who capitalize the pronoun correctly to check whether this lack of sentence initial capitalization is also present. After analysing the productions of the other participants, we find 18 more cases of lack of sentence initial capitalization which supports the idea of a typing mistake. However, the number in the whole corpus is too low to consider it statistically significant. It seems that those who capitalize properly have a better command of the language.

8. Discussion

So, what is to blame? If we ask internet users, in this case, speakers of English as an L1, the answer is clear:

> *i wrote journals and poems on my computer long before there was an internet and before that i did the same on typewriters. when i write for myself i don't use caps and i never have. when i am i don't use them wither. as a result i occasionally post without them. That said, I typically write in the formal style when I write online these days. still, the lowercase look pleases me and i can touchtype even faster when i don't have to worry about shift. i think that people need to look within themselves if they spend a calorie of energy complaining about this kind of thing... there are a lot of things that are far bigger problems.* (Ask.metafilter.com, 2017).

The results show that there is a failure that needs to be revised. However, it is difficult to state this failure correctly as an error or as a mistake. Should a mistake be considered as an error when the problem is derived from CMC instead of blaming a poor command of the language? The boundary is not clear but, in any case, teachers must try to help their students to produce accurate texts. As a consequence, this takes us to the dilemma of the usefulness of giving or not corrective feedback (CF), strongly and

interestingly debated by Ferris (1999; 2004) and Truscott (1996; 1999). On the one hand, Truscott assures us that CF seems to be unnecessary or even harmful. In terms of motivation, CF can be a double-edged sword: the student learns the correct form, but feels embarrassed and tries to use the language as less as possible. This is something that often happens with younger students, especially when we refer to speaking. On the other hand, Ferris (1999) maintains that CF is necessary and helpful. In the case of the students who appear in this sub-corpus, CF seems to be necessary. We are not correcting actual grammar, but the need for proofreading before pressing 'enter' in their computers. Therefore, this is not an error, but a mistake due to the influence of CMC. It is good to ask them to revise their productions by explicitly stating so in the classroom. However, this paper is not aimed at creating a new debate on the need for CF, but to call the teachers attention to the fact that each case should be analysed individually considering the student age and motivation. A group of college students learning how to express themselves in English because they want a career in that subject is not the same as a group of secondary school students learning English because they have to do so when what they really want is to go out with their friends either in the real world or on the internet.

Consequently, it seems that capitalization and correctness largely depend on being aware of pressing an extra key. Wood et al (2013; 2014) showed that this is a common error when using textisms and this is applicable to any other form of CMC as in this case. The role of interlanguage cannot be really proved without asking them to write similar texts using pen and paper and, thus, discard the influence of technology. In this respect, the exams of students following this degree can throw some light on the issue. The exams at this university are not online but *in situ*. Students write their answers on paper and these are later sent to the teacher in charge of the subject. After revising these written productions, it could be observed that the lack of capitalization in "I" is also a problem when technology is not part of the process. Therefore, it seems that only addressing ourselves directly to the students can we solve this situation. The next step in this research will be to set up a control group. Their production will be analysed to check whether explicit corrective feedback is effective. Nevertheless, the influence of technology and auto correction in word processors is also part of this problem, as the student may be aware of the rule but also be used to leaving it to the expertise of the corrector.

9. Conclusions

Our students know the capitalization rules, but they are immersed in the frantic rhythm of the internet to such a point that they forget proofreading even while knowing they need to write accurately to be positively evaluated. Capitalizing a letter means pressing two keys on a computer keyboard. If we are using a mobile phone, the path can be even more complicated if the dictionary is not activated. Using a computer instead of a pen means a lazier attitude in writing, but this society does not care as long as our interlocutor understands the message. In the same way, television contributed to the disappearance of some minority languages (Krauss, 1992), the internet is the architect of bad writing. The solution is not giving up ICT tools, as they have proved to be an excellent help in the classroom and are part of our everyday lives, but just taking our time when writing. Another possibility to explore is that technology also influences handwriting and students forget to capitalize because they are not used to doing it. Interlanguage is not to be forgotten either. These three possibilities suggest that there should be a more exhaustive reflexion on this topic and different strategies explored which could contribute to correcting it.

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Reflective practice

Google Translate in Academic Writing Courses?

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Abstract

The aim of this study was to explore the possible benefits of using *Google Translate* (GT) at various tertiary English for Academic Purposes (EAP) course levels, i.e., to see if the use of GT affects the quantity and quality of student writing. The study comprised preliminary work and a case study. The former included an awareness task to assess student awareness of GT mistakes, and a correction task to assess their ability to correct the mistakes identified. The awareness and correction tasks showed that intermediate students identified 54% of the mistakes, while advanced students identified 73% and corrected 87% of the mistakes identified. The case study included two writing tasks, one with GT and one without. Results showed that when using GT students wrote significantly more words. They wrote longer sentences with longer words and the vocabulary profile of their writing improved. We believe that GT can be a useful tool for tertiary EAP students provided they are able to critically assess and correct the output.

Keywords: English for Academic Purposes, academic writing, *Google Translate.*

1. Introduction

Most tertiary institutions around the world teach writing in English, both at the undergraduate and graduate levels, so students can function in academia and later in their chosen professions. Students of English for Academic Purposes (EAP) need to deal with lexical, morphological and syntactic language difficulties as well as learn the structure and conventions of academic writing.

1.1. Machine Translation, Past and Present

In this day and age, digital tools, such as online dictionaries, spelling and grammar checkers and search engines are ubiquitous and can aid the process of writing. Automatic translation or machine translation (MT) is also a digital tool. "Machine translation is the process of translating text from one language into another using a computer." (*Cambridge English Dictionary*online). Even though it was not originally developed for educational purposes, MT has been adopted by many students writing in foreign languages.

In 1951, following a few early attempts to produce automatic translation, Yehoshua Bar-Hillel from MIT wrote a research report on MT, and in the following year organized the first MT conference. In 1954, IBM demonstrated the first MT system using a sample of 49 Russian sentences translated into English. The system was limited to 250 words and 6 grammar rules. The demonstration stimulated great interest worldwide (Hutchins, 2007).

In the following decades, research on MT continued, hardware was improved, and a variety of approaches were applied. One such approach was the rule-based approach, which bases the translation on a series of linguistic rules including morphology and syntax; another approach was the corpus-based approach, which bases the translation

on texts taken from databanks (Hutchins, 2007); still another was the phrase-based approach, which breaks down sentences into words and phrases to be independently translated (Hsu, 2016).

In November 2016, Google switched from the phrase-based approach to Neural Machine Translation, an approach that uses Artificial Intelligence (AI) to learn from millions of examples. Artificial Intelligence has greatly improved the quality of GT (Schuster, Johnson & Thorat, 2016), which now goes beyond sentence by sentence translation and takes the whole text into account (*Innovations Report*, 2017). This has reduced the number of errors by at least 60% in comparison with the phrase-based approach (Hsu, 2016).

1.2. Machine Translation in Language Classes

The literature on the use of machine translation in language learning and especially in academic writing is very limited. In a survey conducted by Niño (2009), 75% of the students felt that MT was a helpful language tool and 81% expressed that MT had contributed to their language improvement. In her survey of faculty attitudes, Niño found that 23% of the language instructors used MT in their lessons both from L1 into L2, and from L2 into L1, from intermediate level onwards. Thirty percent of the instructors who did not use MT in their lessons said they would be willing to use it.

In a study conducted in Australia, Garcia & Pena (2011) investigated whether MT could help beginner learners of Spanish to communicate better in writing. They found that MT helped students write more (quantity) and better (quality).

In a survey of language instructors in the foreign language department at a regional Swedish university conducted in 2012, 66% of the respondents said they would prefer if their students did not use MT when doing written assignments. However, all teachers agreed that if students did use MT, they would need good language skills to edit the output.

In 2012 a survey focusing on the use and perceptions of MT was conducted among students of Spanish, French, Italian and Portuguese (N = 905) at Duke University. Ninety-one percent of the students said they noticed mistakes made by MT; 43% said they used it for double-checking what they wrote in the foreign language; 85% felt MT helped increase their vocabulary (Clifford, Merschel, Munne, & Reisinger, 2013). In short, students felt that MT helped them learn language.

In 2013, the Spanish Language Program at Duke University had a written policy forbidding the use of any computer software that compromises the students' learning process, including translation programs (Clifford, Merschel, & Munné, 2013). The Duke University research team sent an email survey of faculty attitudes to several universities and received 43 responses. Seventy-seven percent of the respondents disapproved of the use of machine translation by students, and none of them approved. Eighty-four percent of the instructors teaching beginners felt that MT was not a useful tool. However, 54% of the instructors teaching advanced levels felt MT was useful. Forty-two percent felt that using MT in writing assignments was cheating. In sum, both the Duke University and the Swedish university faculty surveys showed that the majority of participants were against the use of MT by students.

In 2014, Spector-Cohen, Schcolnik, & Kol reported on a survey conducted among tertiary level students (N = 203) to find out whether EAP students use GT when writing in English, their motivation for using it, and their attitudes towards GT. The results of the survey showed that 80% of the students used GT *always*, *often* or *sometimes*. Eighty-two percent reported using it to translate single words, whereas only 28% said they used it to translate whole paragraphs.

1.3. Purpose and Structure of the Study

According to Groves & Mundt (2015), MT can have a profound effect on language teaching. MT programs have been available for a while, but there have been few studies of their use by foreign language students (Spector-Cohen et al., 2014, Clifford, Merschel, & Munné, 2013; Garcia, & Pena, 2011, Niño, 2009).

Google Translate (GT) is the most commonly used automatic translation tool, which is why we decided to focus our study on GT rather than other MT tools. Most students in our tertiary EAP classes use it when writing. Even so, among language instructors there seems to be consensus that GT has no place in EAP courses. Many instructors in fact forbid their students to use GT because "*You don't teach writing by having a machine write for you*." Or "*Machine translation is so inaccurate, how can it help students write?"* These comments are consistent with the lack of willingness of tertiary institution instructors to use technology in their courses.

In a study of information technology use in tertiary institutions in the U.S. (Brooks & Pomerantz, 2017) in which 43,559 students from 124 institutions in 10 countries and 40 U.S. states participated, the students reported that faculty are banning or discouraging the use of laptops, tablets, and smartphones in the classroom more often than in previous years.

The main issue that motivated our study was whether the use of GT should be allowed in EAP writing programs. Over the years, we have encouraged and taught mindful use of various digital tools in our EAP courses. Since we see GT as a potentially useful tool, we decided to explore the possible benefits of using this tool at various course levels. We assumed GT could be beneficial to EAP writers, provided the GT output was assessed critically and corrected, i.e., students would need a sufficient level of language knowledge to notice the mistakes made by the machine and to correct them. The main purpose of the study was to develop guidelines for use of GT in EAP writing courses, favoring mindful use over simple copy-paste.

Our study comprised preliminary work and a case study. The purpose of the preliminary work was to determine the course level to focus on in the case study. It included an *awareness task* to assess student awareness of the mistakes made by GT, and a *correction task* to assess their ability to correct the mistakes identified. The purpose of the case study was to determine if the use of GT affected quality and quantity of advanced student writing, including language, number of words, readability and vocabulary level. The case study included two writing tasks, one without the use of GT and one where GT was allowed.

2. Preliminary work

2.1. Method

Population: The awareness task was run in B1 and B2 classes (Common European Framework levels, N = 79) at Tel Aviv University and the Interdisciplinary Center Herzlyia (IDC). The correction task was then run in B2 classes only (N = 49) at IDC.

Instruments:

- An *awareness task* to assess student awareness of mistakes in the translation of 10 sentences translated from Hebrew to English by GT.
- A *correction task* to assess students' ability to correct the mistakes they identified.

Data Analysis: To measure mistake awareness and ability to correct mistakes, we devised formulas for calculating scores as follows:

- *Mistake Awareness Score (MAS)* is the ratio of the number of mistakes students identified, out of the total number of mistakes made by GT (minus a penalty for marking correct items as mistakes).
- *Mistake Correction Score (MCS)* is the ratio of the number of mistakes students corrected, out of the number of mistakes they identified (minus a penalty for incorrectly changing correct items). Penalties were given only when the alternative provided in the change was incorrect. Where the correction was unnecessary but possible, no penalty was given.

Procedure: The awareness task presented students with 10 short sentences in Hebrew followed by their GT translation. Students were asked to identify the mistakes in the translation. In light of the findings, that showed B1 students could only identify about half of the mistakes, we decided to run the correction task in B2 classes only, where students were asked to correct the mistakes found.

2.2. Results

Results for the awareness task showed that B1 students were able to identify 54% of the mistakes, while B2 students identified 73%.

Results for the correction task showed B2 students were able to correct 87% of the mistakes they identified.

3. Case study

3.1. Rationale

Since we assumed that awareness of mistakes and the ability to correct them are a prerequisite for productive use of GT for writing, and in light of the results of the preliminary work, we decided to run the case study with B2 students only. We wanted to see if the use of GT affected the quantity and quality of their writing, including the readability level and vocabulary profile of their texts, and their use of academic vocabulary.

3.2. Method

Population: One class (N = 25; 14 male and 11 female) of 1st year students of government and political science (at B2 level) at IDC.

Instruments:

- Two *writing tasks*, one without using GT and one where use of GT was allowed. Both tasks required writing a few paragraphs taking a stand on a topic dealt with in texts read in the course.
- *A short questionnaire* about student use of GT when doing the second writing task: whether they used GT at all, used it to translate words and phrases, full sentences, or whole paragraphs (See Appendix).

Procedure: Early in the semester, students did the two writing tasks, administered a week apart. They were given a choice whether to write by hand or on the computer, to avoid the effect of the medium on the quality of the writing. They were given 40 minutes for each *writing task*.

In the first *writing task* students were not allowed to use GT but were permitted to use a handheld dictionary, either print or electronic. In the second task they were allowed to use GT. After completion, students answered questions about their use of GT.

Data Analysis: The evaluation of the two writing tasks included scores for the quantity and quality of writing, the readability and the level of vocabulary.

- *Writing Score* – To score the writing tasks, we considered language mistakes only, including morphology (e.g., verb form) and syntax (e.g., missing article). Content and paragraph structure were ignored, as were spelling mistakes. If the same type of mistake was repeated, it was counted only once. We calculated the score by using a percentage based on the ratio of the number of mistakes students made, out of the total number of words they wrote.
- *Quantity of Writing* – We compared the number of words in the two writing tasks.
- *Readability Score* – Readability is an index that reflects text complexity and can be expressed as the grade level for which the text is suitable. It is measured by calculating the length of sentences and the number of words, syllables, and characters in the text. For example, when longer words (with more syllables) are used, the readability score increases. We used the *Flesch-Kincaid* scale to measure readability.
- *Vocabulary Profile* – Vocabulary profiling is based on lexical text analysis. It reflects the percentage of low and high frequency vocabulary used in a written text and classifies the words as belonging to different categories (Laufer & Nation, 1995). According to Laufer & Nation, lexical profiling has several advantages over other measures of lexical richness, as it is independent of syntax and focuses on lexis. The first category (K1) includes the 1000 most frequent words in English (e.g., *world, years, peace, and*),

and the second (K2) includes the next 1000 commonly used words (e.g., *ahead, threat, solve*). The third category is the Academic Word List (AWL), which includes 570 words used frequently in academic texts across subjects (e.g., *crossroad, intractable, generation*). We used *Lextutor* (https://www.lextutor.ca/vp/eng/) to profile student texts.

- *Questionnaire* - We recorded student use of GT in the second writing task.

3.3. Results

- *Writing Score* – The average grade (based on grammatical accuracy only) for writing task 1 (without GT) was 93.2 and for writing task 2 (with GT) the average grade was 93.4. There is no significant difference between the two grades.
- *Quantity of Writing* – The average number of words written in task 1 was 140 and in task 2, 171. A t-test was conducted to compare the average number of words in the two writing tasks. There was a significant difference between the two tasks, t = -2.04947. p = .023348. The result is significant at $p < .05$, showing that students wrote significantly more words when using GT.
- *Readability Score* – The readability grade level rose when students used GT. The average grade level for the first writing task (without GT) was 8.6 and that for the second task (with GT) was 10.3. A t-test was conducted to compare the two averages. There was a significant difference between the two grade levels, t = -2.71851. p = .004745. The result is significant at $p < .05$, showing that students wrote longer sentences with longer words when using GT.
- *Vocabulary Profile* – Words in the texts students wrote were classified into three vocabulary groups: K1 = the first 1000 most commonly used words in English; K2 = the next 1000 most commonly used words; AWL = academic word list.

Table 1. Vocabulary profiling average percentages.

	K1	K2	AWL
Task 1 (without GT)	89.1	2.9	4.6
Task 2 (with GT)	79.0	5.0	5.9

The numbers represent the percentage of words in each group out of the total number of words in the text.

When using GT, the vocabulary profile of student writing improved, i.e., K1 words decreased, while K2 and AWL words increased. T-tests were conducted to compare averages. There was a significant difference between the first and second writing tasks for all three word groups. For K1, t = 8.60713. $p < .00001$. The result is significant at $p < .05$, showing that students used fewer basic words when writing with GT. For K2, t = -4.78664. $p < .00001$. The result is significant at $p < .05$, showing that students used more words from the second 1000 word group when writing with GT. For AWL, t = -2.18186. p = .017133. The result is significant at $p < .05$, showing that students used more academic words when writing with GT.

To sum up, there was a significant difference in the lexical items used by students when using GT, the number of K2 and AWL words grew significantly and the K1 words decreased.

- *Questionnaire*

Eighty-three percent of the students reported they used GT while writing. Seventy-five percent of those who used it did it to look up words and phrases. Very few students said they used it to translate full sentences or paragraphs.

Students who said they didn't use GT explained why: *I didn't need it to write the paper; I don't want to get used to relying on software, I prefer practicing my English; I want to improve my English with the vocabulary I already have in my possession, my own tools.*

4. Discussion and conclusion

Preliminary Work – The results of the awareness and correction tasks showed that B2 students are well aware of most of the mistakes made by GT and are capable of correcting them. This indicates a level of English that is sufficient for critical assessment of the GT output and revision. The finding also validates our decision to run the case study with advanced students.

Case Study – No significant difference was found in the writing task scores. We believe this can be explained by the fact that the only types of mistakes counted were grammatical mistakes. Since students used GT mainly as a dictionary, to look up words and phrases, GT could not affect their grammatical accuracy. Moreover, the writing task with GT was done one week after the task without. We can assume that one week is not enough time for instruction to affect the scores and evidence an improvement in grammatical accuracy.

Students wrote significantly more words when using GT. One explanation could be that they had more time to write, not needing to think about how to express their thoughts in English, as they could just look up words and expressions quickly. However, we cannot discount the possibility that having done one task, students gained more self-confidence to write more extensively in the second task.

The readability level of the students' writing in the second task was significantly higher. This can be explained by the fact that students used a higher level of vocabulary in the second task, employing longer words, as evidenced in the vocabulary profiling done.

In academic writing, the ability to choose formal content words is needed (Swales & Feak, 2009). The vocabulary profiling revealed that students used a higher level of vocabulary when using GT. This is not evidence that the words have already become part of their productive written vocabulary, but it does show that they were exposed to them. The course in which the case study was conducted deals with topics in the area of government, where the specialized, academic vocabulary suggested by GT will probably reappear. Since exposure is the first stage in vocabulary learning, it is to be expected that the students will eventually be able to incorporate those words into their active vocabulary.

According to Nation (2001), the quality of academic writing depends strongly on the use of academic vocabulary. He claims that both knowledge and motivation affect the use of vocabulary. Our EAP students are motivated to use academic vocabulary but in many cases do not know suitable words in English, although they may well know them in their L1. We think that using GT can help them start to use those words and with enough re-entry, incorporation of the words into the students' productive vocabulary should occur.

The findings of the case study, though interesting, cannot be generalized due to the small number of participants. That is a limitation of the case study. In light of the constant improvement of artificial intelligence and thus of GT, it would be interesting to conduct similar studies with larger samples of advanced students of English in the future.

5. Pedagogical suggestions

Even though it may be difficult for EAP instructors to introduce machine translation into their courses, as it could be perceived to undermine teaching and learning a foreign language (Groves & Mundt 2015), we believe that GT can be a useful tool for language students at all levels, particularly because it is continuously improving its translations. Since most students are already using the tool, instructors should show their students how to use it effectively rather than ignoring it or forbidding its use. As pointed out previously, machine translation in its current state is only able to produce texts of limited quality. Thus, students will need to be able to check it for accuracy, cohesion and quality of translation. This process could be exploited in the classroom to enhance teaching and learning (Groves & Mundt 2015).

Based on the findings of the study and our experience teaching the use of digital tools in tertiary EAP courses, we propose the following guidelines for instructors.

Lower levels (C and B1 levels in the CEF)

- Even though lower level students might be tempted to enter whole paragraphs in their native language, they need to be made aware of the fact that the output will require editing, which they are probably not equipped to do. Therefore, we recommend that lower level students use GT only for words (as a dictionary) and short phrases.
- Instructors should show their students that when they input a word in their native language, they need not use the first word that comes up in the translation box. Instead, students need to choose the best translation for their specific context. GT facilitates the choice by providing a list of alternative translations with their meanings in the language entered. Figure 1 is an example of the list provided by GT when entering the Hebrew word להפיק (/lehafeek/). The main translation given in the box is *produce*, which is the most common use of the word.

Figure 1. Example of a list of alternative translations in *Google Translate.*

Given the richness of the translations provided, even lower level students should be able to choose an appropriate translation. This is true when entering single lexical items. When entering an idiomatic expression, GT may provide both the literal and the idiomatic translations, the most common one appearing in the box, and the other one in a popup that appears when clicking the translation.

Advanced levels (B2 and A levels in the CEF)

- Advanced students should be able to use GT for short sentences as well as words and phrases. Instructors should show their students that GT translates many sentences correctly, but that they need to be aware of potential mistakes. Instructors can show them that in some cases alternative translations of the sentence may be provided in a popup, and the alternative may be more suitable than the main translation.
- Instructors may choose to conduct an awareness and correction task in class, in which students, working either individually or in groups on the same translation output, go over and edit it. Then, student editing can be shown and discussed. This activity can constitute preparation for the use of GT in writing. It can raise awareness of the kinds of mistakes they are likely to encounter and how to correct them.

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Appendix

Questionnaire after second writing task in case study:

1. Did you use GT? YES - NO

2. If your answer is YES, what did you use it for? *Check ALL correct answers.*

    [ ] To translate single words

    [ ] To translate groups of words

    [ ] To translate whole sentences

    [ ] To translate whole paragraphs

3. If you didn't use GT, why not?

Reflective practice

Autonomy in Vocabulary Learning of Turkish EFL Learners

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Abstract

The primary aim of this study is to investigate the impact of a mobile flashcards application, Quizlet, on t> students' performance and autonomy in vocabulary learning. The study also attempts to explore the perceptions of students and their teacher about incorporating this application into the teaching, learning and practicing of target vocabulary in English language preparatory classes. To achieve these objectives, a nonrandomized quasi-experimental research design was adopted. The participants were selected from two intact classes of Turkish EFL students enrolled in a language preparatory program at a foundation (non-profit, private) university in Istanbul, Turkey. The data was collected through pre- and post- vocabulary tests, an online survey, student interviews and a teacher's reflective journal. The findings revealed that Quizlet had a positive impact on students' performance and their autonomy in vocabulary learning. The overall perceptions of participating students and their teacher about using Quizlet to teach and learn English vocabulary were also positive. Based on these findings, the study provides practical implications and offers suggestions for integrating mobile learning into English language preparatory classes.

Keywords: Mobile-assisted language learning, vocabulary performance, autonomy, mobile application.

1. Introduction

The increasing use of technological devices has enabled English language teachers to apply different teaching methods and strategies in their classroom. This rapid improvement in technology has given teachers the opportunity to incorporate mobile devices into their teaching practices and help their students to become more motivated and eager to learn. Specifically, the use of mobile tools has enabled educators to shift from traditional teaching methods and strategies to mobile-based learning which results in better vocabulary gains, more effective reading comprehension and increased language achievement (Kieffer & Lesaux, 2012; Nagy & Scott, 2001; Nation, 2001). Recent research has examined the effects and benefits of mobile-assisted language learning (MALL) by making use of its inherent features as 'spontaneous, personal, informal, portable and ubiquitous' (Kukulska-Hulme, 2006). The findings reveal that smartphones in particular are effective instructional tools to meet the language needs of students as well as attract their interests (Martin & Ertzberger, 2013; Sandberg, Maris & Geus, 2011; Tayebinik & Puteh, 2012). Since we live in this technologically advanced era, traditional classroom tools have been replaced by technology-based materials, and therefore, more and more students have been using the internet on their laptops, tablets or smartphones to study in and out of class. By using these technological devices, it is easy both for students and teachers to reach the information and learning materials whenever or wherever needed. Therefore, it is important to raise the awareness of educators about the effectiveness of mobile applications and how they can

be utilized in language classrooms to provide a fun means of enhancing students' learning, increasing their motivation and helping them become autonomous learners.

2. Literature review

The increasing use of mobile devices has given rise to the development of a number of applications to facilitate the process of teaching and learning in English classrooms. Innovations in technology provide teachers and students with opportunities to enhance, in particular, the process of vocabulary acquisition. It is a widely accepted fact that mobile devices are effective and efficient tools with a lot of pedagogical potential in terms of language learning and mastering language skills (Burston, 2013).

MALL is considered and proved to be more effective in fostering vocabulary learning through various types of exercises based on multimedia learning than paper based learning and teaching strategies and tools (Altiner, 2011; Alavinia & Qoitassi, 2013; Azabdaftari & Mozaheb, 2012; Chu, 2011; Godwin-Jones, 2011; McLean, Hogg, & Rush, 2013; Motallebzadeh & Ganjali, 2011). The findings report that vocabulary learning through the use of an application on a mobile device is more effective than learning through traditional methods and strategies.

Moreover, the majority of the studies which have been recently conducted on vocabulary acquisition, explored not only the role of mobile devices and applications, but also online flashcard programs and websites in vocabulary acquisition (Al-Jarf, 2007; Kilickaya & Krajka, 2010; Stockwell, 2010; Thornton & Houser, 2005). To begin with, McLean et al. (2013) aimed to explore the effectiveness of the online flashcard site Word Engine as a supplementary tool for vocabulary learning among Japanese university students. The results revealed that the website enhanced the students' vocabulary performance. The students who studied vocabulary by using this flashcard website outscored those who used extensive reading to study the vocabulary items on the vocabulary post-test, which is clear evidence that utilizing an online flashcard website is a more efficient way to study and acquire vocabulary. Likewise, in a comparative study conducted by Basoglu and Akdemir (2010), the effectiveness of using a digital flashcard program, ECTACO (simple mobile flashcards application), was investigated in comparison to paper-based vocabulary flashcards. The participants of the study were 60 Turkish students studying in the English Preparatory Program at a public university and they were required to study 1000 target words over the course of six weeks. The findings showed that both the participants in the experimental group who used the mobile application and those in the control group who studied vocabulary using paper-based flashcards improved their vocabulary knowledge. However, the students in the treatment group had significantly better results than their control group counterparts, and those who studied using the application reported that this tool was a motivating tool. In a similar study on MALL, Azabdaftari and Mozaheb (2012) investigated the effectiveness of mobile-based flashcards in the vocabulary learning performance of Iranian university students. The interviews showed that the convenience of the flashcards and the entertainment factor of using the application motivated the students more to study vocabulary on their mobile devices in and out of the class.

Furthermore, the use of mobile devices which can connect to the internet in education has increased at a rapid rate since the iPad was first introduced in 2010. Empirical findings also revealed that applications specifically developed to run on these devices promote student progress regarding speaking, reading, and writing skills (Harmon, 2012; Lys, 2013; McClanahan, Williams, Kennedy, & Tate, 2012) and these applications enhance the learning motivation (Kinash, Brand, & Mathew, 2012). Recent research also suggests that mobile-assisted language learning provides language learners with the required amount of exposure to acquire target structures and vocabulary items (Thornton & Houser, 2005; Clark, 2013; Wang et al., 2015). For instance, an experimental study carried out by Clark (2013) with five English language learners at the first grade sought to explore the effectiveness of using an iPad application (Vocabulary Builder) on the vocabulary learning of elementary level learners of English. The study lasted for 12 sessions in total, one 30-minute session daily, and the control group in this study studied a vocabulary worksheet prepared by the teacher to learn and revise the target vocabulary structures whereas the students in the experimental group did the exercises on the iPad application. The results revealed that the iPad application

enhanced the vocabulary acquisition of the students in the experimental group. The application provided these students with additional exposure to vocabulary items as they were able to study with the flashcards (visual exposure) and listen to the pronunciation of the words (auditory stimulation) by using the application. The students in the experimental group who used the iPad application reported that they were more engaged in the exercises and activities and more motivated to learn the vocabulary.

In a similar fashion, Wang et al. (2015) examined the efficiency of iPad applications on vocabulary learning and engagement of English learners at the university level. The researchers conducted an experimental study with two freshman English classes (N=74) at a private university in Taiwan. The experimental group learned the vocabulary items via the Learn British English WordPower application and the students in the control group studied vocabulary and learned the target words by making use of the semantic-map method. According to the findings, the students who used the application to learn the vocabulary items improved their vocabulary knowledge more and were more engaged and motivated to learn the vocabulary than those in the control group.

Other studies have investigated the educational use of mobile devices to enhance vocabulary acquisition by integrating the text message function of mobile phones and vocabulary learning. Specifically, research conducted to explore the effectiveness of text messaging on vocabulary learning showed that spaced-repetition of the target vocabulary items enhanced students learning. In other words, the results indicated that the 'spacing affect' created by exposure to target words in fragmented intervals promoted the retrieval of these vocabulary items. (Thornton & Houser, 2005; Lu, 2008; Cavus & Ibrahim, 2009; Nwaocha, 2010; Zhang et al., 2011).

3. The study

As summarized in the previous part of this study, it is widely accepted that mobile devices are effective and efficient tools with effective pedagogical potential in terms of language learning and mastering language skills. Using mobile phones can enable teachers to provide an effective learning environment for their learners. Specifically, using such mobile devices helps learners to improve their vocabulary, increases their motivation and makes them become more autonomous. Therefore, the present study aims to investigate the effectiveness of Quizlet as a mobile tool for vocabulary learning, examine its impact on students' motivation and autonomy and also compares the use of this mobile tool with keeping a notebook while learning vocabulary in English. The study also attempts to find out the perceptions of students and their teacher about implementing such a mobile tool while learning, teaching and practicing vocabulary in an English language preparatory program. To meet these objectives, the following research questions were addressed:

1. Does using Quizlet as a tool to store and practice target vocabulary have an impact on students' performance in English vocabulary learning?

    1a. Is there any difference between using Quizlet and a vocabulary notebook in terms of the ability of students to use target vocabulary correctly?

2. How does Quizlet help students improve their autonomy in vocabulary learning?

3. What are the perceptions of students and their teacher about using Quizlet as a tool to learn, practice and teach target vocabulary?

4. Research methodology

4.1. Instruments

The study was carried out at a foundation university (non-profit, private) in Istanbul, Turkey. A nonrandomized quasi-experimental research design (a nonrandomized control group, pretest–posttest design) was employed in order to investigate the effect of the manipulated variable which was an implementation of the Quizlet flashcards program to store and study vocabulary. The data was collected through the use of mixed method data collection instruments, namely, qualitative data was gathered to complement the quantitative data. The primary data collection techniques adopted in this study were pre- and post-tests to gather statistical data, a Quizlet online survey, and semi-structured interviews to gather qualitative data - which is crucial in order to triangulate

the obtained findings. No alterations were made to the collected data and it was analyzed statistically and descriptively in an attempt to increase the validity of the research and obtain more dependable findings.

Based on the experimental research design, the participants in the experimental group received treatment whereas the control group had no treatment. The participants in both the experimental and the control group were given vocabulary pre- and post-tests. In order to gather more reliable findings and gain a deeper insight into the issue, semi-structured interviews were conducted with the students in the experimental group and a post-treatment survey was administered to explore the perceptions of students about using this digital tool to store and revise target vocabulary as qualitative data collection methods. Collecting quantitative data through pre- and post- tests and qualitative data via a Quizlet online survey and semi-structured interviews enabled the researcher to analyze the results statistically and thematically to attain triangulation.

4.2. Sampling

Assigning the population elements to treatment or control groups randomly is difficult and mostly not possible in many research situations (Ary et.al, 2010, p. 155), which is also the case in this study. For this reason, the researcher employed nonrandom procedures for selecting the participating members of the sample, and nonprobability sampling was used in this study. Therefore, a convenience sampling procedure was adopted in this quasi-experimental study and the research included a population of 40 students who were recruited from two intact pre-intermediate level classes of foreign language learners who were studying English for academic purposes at the Preparatory Program of a foundation (non-profit, private) university in Istanbul, Turkey.

5. Findings

5.1. The impact of Quizlet on students' vocabulary performance

In order to answer the first research question related to whether using Quizlet as a tool to store and practice vocabulary had any impact on the students' vocabulary performance, the pre- and post- test scores were analyzed through Friedman's ANOVA test. The following table presents the results:

Table 1. The Impact of using Quizlet on students' performance in vocabulary learning.

Groups	**Pre-test**				**Post-test**							
	M	SD	Min	Max	M	SD	Min	Max	N	χ2	df	p
Exp	28.68	13.42	10	60	82.37	10.84	60	95	19	19.00	1	.000
Control	29.47	11.16	15	60	61.58	22.61	30	95	19	14.22	1	.000
*p<.001												

As shown in Table 1, there was a significant difference between the pre- and post- test scores of the students who used Quizlet over the course of eight weeks. The increase in the test scores were significant in the experimental group ($\chi 2 = 19.00$, $p < .001$), which shows that using Quizlet had a positive impact on learning target vocabulary items. The findings also indicated that the changes occurred in the test scores over the course of eight weeks were significant in the control group ($\chi 2 = 14.22$, $p < .001$). In brief, both groups made substantial progress regarding vocabulary knowledge over time.

In addition, to examine whether there was any difference between Quizlet and vocabulary notebook on the ability to use target vocabulary correctly, the mean scores of the pre- and post- tests of the two groups (experimental vs control) were compared. The following figure presents the descriptive statistics:

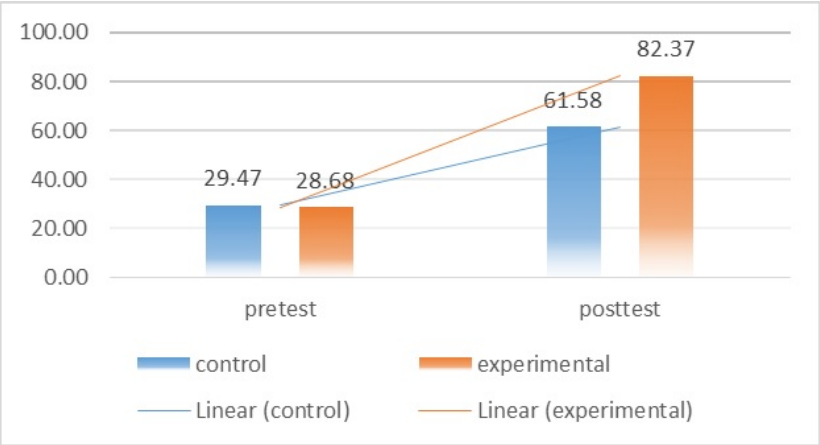

Figure 1. Comparison of the mean scores for control and experimental groups.

As shown in Figure 1, there was a substantial difference between the average grades of the two groups of participants. Specifically, even though keeping a vocabulary notebook enhanced the students' performance in vocabulary learning to a certain degree (32.11 points), the difference in the experimental group was much higher (53.69 points) which showed that Quizlet was a more effective tool to learn and revise target words.

5.2. The effects of Quizlet on promoting learner autonomy in vocabulary learning

As for the second research question of this study, which aimed to find out whether using Quizlet helps students to become more autonomous in vocabulary learning, data was gathered from the Quizlet online survey. The participating students were specifically asked to what extent they agreed with these three items: Quizlet increased my interest in studying vocabulary (item 2), I like Quizlet because I can access it to study vocabulary on my own devices (item 4), and I feel confident that I know the vocabulary after studying with Quizlet (item 8).

Before the survey including these items was administered, the Cronbach alpha score was calculated to ensure the reliability. The items in this category are shown in Table 2:

Table 2. Quizlet survey items to explore autonomy in vocabulary learning.

Quizlet enables students to become more autonomous vocabulary learners.	Items
	2. Quizlet increased my interest in studying vocabulary.
	4. I like Quizlet because I can access it to study vocabulary on my own devices.
Cronbach Alpha= .83	8. I feel confident that I know the vocabulary after studying with Quizlet.

The Cronbach alpha level was .83, which is an acceptable value (.70 to .95) (Tavakol & Dennick, 2011). After the reliability score was estimated, the frequencies and percentages of these items were calculated and are reported in the table below:

Table 3. Responses to the Quizlet survey items exploring autonomy in vocabulary learning.

Items	Response	Frequency	Percent
2. Quizlet increased my interest in studying vocabulary.	Strongly Disagree	-	-
	Disagree	-	-
	Neither Agree Nor Disagree	-	-
	Agree	5	25
	Strongly Agree	15	75
	Total	20	100
4. I like Quizlet because I can access it to study vocabulary on my own devices.	Strongly Disagree	-	-
	Disagree	-	-
	Neither Agree Nor Disagree	1	5
	Agree	5	25
	Strongly Agree	14	70
	Total	20	100
8. I feel confident that I know the vocabulary after studying with Quizlet.	Strongly Disagree	-	-
	Disagree	-	-
	Neither Agree Nor Disagree	3	15
	Agree	5	25
	Strongly Agree	12	60
	Total	20	100

As shown in Table 3, for item 2, the students were asked to report whether Quizlet boosted their interest in studying vocabulary. After using Quizlet to learn target words and study out of class time for 8 weeks, all of the students agreed (25%) or strongly agreed (75%) that this application increased their interest in studying vocabulary on their own devices.

In addition, the survey item 4 was aimed at exploring whether accessing Quizlet on their own mobile devices increased students' autonomy in vocabulary learning. Almost all of the students agreed (25%) or strongly agreed (70%) that they liked Quizlet since it could be accessed through a mobile device in order to study vocabulary. The students were able to learn and study target words independently on the Quizlet application, which made them more autonomous vocabulary learners. They were also taught how to create their own sets by using Quizlet, and some students created new flashcard sets for other words that they were supposed to learn but not included in this study. This also indicated that using Quizlet on their own devices made them more autonomous learners in terms of learning the target vocabulary items and revising for vocabulary tests. These findings revealed that the students became more autonomous after using this tool.

Finally, the responses to item 8 revealed that more than half of the students (60%) strongly agreed that Quizlet increased their confidence in terms of learning the words. The majority of the rest of the participants (25%) agreed that they also felt confident after studying with Quizlet. Similarly, quite a number of the students in the experimental group reported that they study vocabulary by using Quizlet on the metro bus and bus while commuting. The students responded that they were able to type more easily on their mobile devices on public transportation, which is another reason why they prefer Quizlet to study vocabulary.

In brief, the findings revealed that Quizlet enabled students to feel and become more autonomous vocabulary learners. They enjoyed studying vocabulary with Quizlet, and they also agreed that studying vocabulary using this application made them feel more confident. Finally, the students' interests in studying vocabulary on their own out of class also increased after using Quizlet, which was another indication of autonomy in vocabulary learning.

5.3. The perceptions of students about using Quizlet to learn and practice target vocabulary

To find the perceptions of students regarding the use of Quizlet to learn and practice vocabulary, semi-structured interviews with 15 randomly selected students from both groups were conducted and analyzed using the qualitative data analysis software NVivo 11. The interviews were recorded and transcribed into written form so that it would be easier to analyze. Specifically, each student was asked 4 questions related to their experiences using Quizlet or keeping a notebook to learn and practice vocabulary.

First, the students clearly stated that they enjoyed using Quizlet as they found it accessible, easy to use and entertaining. The following excerpt clarifies this finding:

> *I like Quizlet a lot, because the game features are entertaining and I can access it everywhere on my smart phone.* (Student interview, March 2018)

This quotation is only a sample answer given that represents the overall perceptions of the other participants. The words that were mostly repeated in the students' responses were connected to the entertaining features of Quizlet. The most frequently found words were 'enjoy, fun, game, entertain', which were repeated 11 times in total. Almost all of the students who were interviewed reported that Quizlet contributed to their learning a lot and it was a fun application to use.

Another frequently given answer was that Quizlet promoted vocabulary learning. Most of the students stated that they were able to learn the words in a fast and an easy way using Quizlet. The words 'learn, easily, easy, fast' recurred 16 times in the responses of the participants as emphasized in the comment below:

> *I feel that I can learn words easily when I study vocabulary on Quizlet.* (Student interview, March, 2018)

On the other hand, while most of the comments by the students about using this mobile application were positive, there were a few students who felt a bit negative. As it was analyzed via NVivo, two students repeated the word 'distract'. Some of the participants particularly reported that studying vocabulary on a smart phone was somewhat distracting for them since their friends texted or sent instant messages while they were studying on the application as illustrated in this quotation:

> *I don't want to continue using Quizlet to study vocabulary in the future because my friends send me messages while I'm studying, and I get distracted.* (Student interview data, March, 2018)

To summarize, the findings of the semi-structured interviews revealed that Quizlet serves as a very useful tool to store and revise vocabulary, which also enables students to expand their vocabulary knowledge by entertaining them and taking a relatively shorter time than the other vocabulary studying methods and strategies.

5.4. The perceptions of the teacher about using Quizlet to teach target vocabulary

To explore the teacher's perceptions about the use of Quizlet to teach vocabulary, the teacher kept a reflective diary for a period of eight weeks (40 days, 200 hours of vocabulary teaching in each group), which is summarized in the following part of this study.

First of all, the teacher created sets and added them to the class to share them with the students. Creating vocabulary study sets is very simple and it is certainly not a time-consuming task. The teacher used the unpaid teacher account and this allowed him to choose visuals for the vocabulary items from the suggested images, which are about eight or nine pictures taken from Flickr. However, the paid version lets the users upload their own pictures for the terms. Finding an appropriate picture for most of the words was very simple; however, for some abstract nouns or feelings, it was harder to assign a suitable visual. The excerpt below shows the teacher's opinion about this minor problem:

> *I created the sets for the following eight weeks to use with my students and it was not a difficult task to do. The only problem I had was finding pictures for some words like 'urgent, complaint, etc.', however it was very easy to find a suitable image for the rest of the words.* (Teacher reflective journal, March 2018).

Furthermore, before the students started using the application, the teacher taught them how to sign up and join the class, and how to use each function of Quizlet. He reported that the students had no difficulties in signing up since they were able to use their Google or Facebook accounts to become a member. After the students learned how to use the different features of the application, they downloaded it from Play Store or App Store, based on the operating system of their mobile devices, and they were given twenty minutes to study the first set created by the teacher and explore each function briefly. Finally, the teacher stated that the students seemed quite happy while they were studying the set and they all stayed on task during this period, which can also be seen in the comment below:

> *The students seemed quite excited about using the application and they all enjoyed the Audio function, which helped them to learn the correct pronunciation of the words. Seeing my students having fun and learning at the same time made me feel very happy.* (Teacher reflective journal, March 2018).

After the students studied the first set on their own by exploring each available function of Quizlet on a mobile device - Cards, Learn, Match, and Test - the teacher demonstrated how to use the Spell and Gravity features that are only available on the Quizlet website. Each student was given a chance to use the Spell feature and play the Gravity game at least once. They all enjoyed using these features too, they especially liked the Gravity game since the task in this game is really an exciting one, which is to protect their planets from incoming asteroids (e.g. the definitions of the target words) by destroying them (typing the terms in correctly) before they reach the ground. The following excerpt describes how the students' and the teacher felt while playing this game:

> *The students loved playing the Gravity game since it adds game features and time pressure to typing the words correctly and creates an exciting atmosphere in class. I felt very happy because my students were learning target words by trying to beat the clock in this game and entertaining themselves at the same time.* (Teacher reflective journal, March 2018).

For the last ten minutes of the lesson, the students played Quizlet Live game, which is a newly added feature to the Quizlet website. This is a whole-class team-based game, which not only enables students to revise the vocabulary items but also helps them to build soft skills. Each student needs to have a mobile device or a laptop to play the game, and they all played the game on their smartphones on that day. The teacher created the game by using the same set that the students had just studied and the students joined the game by going to https://quizlet.com/live and entering the unique join code assigned for that game and their names. The students were distributed to randomized teams of 3 or 4 and worked together to match all of the words in the set to the definitions correctly in a row to win. The students in the same team have the same

question but only one of them has the correct answer in this game. It reinforces the vocabulary and enhances communication among the students. The following excerpt shows how much the students and the teacher enjoyed this new game:

> *At first, the students weren't able to understand how to play the game even though I explained the logic behind it. They had difficulties in realizing that they needed to work together to find the term that matches the definition, since none of them has all of the answers. However, after a very short time they were all enjoying themselves and trying to win the game.* (Teacher reflective journal, March 2018)

Moreover, the teacher used Quizlet over the course of the following weeks to teach the selected words for this study. The students were usually presented with the vocabulary items through a listening or a reading text and they were given some time to guess the meanings from the context before they started learning them on Quizlet. The students were able to guess the definitions of some words by giving the Turkish meanings, but they were not able to explain them in English. The teacher stated that the students were able to define the words in English after studying them on Quizlet and this shows that they can learn the English definitions easily with the help of different functions of this application. The following quotation illustrates this:

> *The students were able to guess the Turkish meanings of some of the target words like 'development' since they already knew the meaning of the verb form of this noun. However, they didn't know the English definitions of these words. After they were given fifteen minutes to study these words, they were able to define the words in English, this really made me happy.* (Teacher reflective journal, March 2018)

Besides, the students were also told to revise the vocabulary items they learned out of class time, i.e., at home, on public transport, or during the two-hour break time at school, on their mobile devices or on a computer. The unpaid version of Quizlet and its features were utilized for this study and it was not possible for the teacher to track the class progress, view each student's activities on the application, or obtain class-wide data to see which terms were missed most often or how well the students learned the terms, which are some of the features of an upgraded teacher account. Nevertheless, the teacher was able to open each student's profile and check individual activities of the students for the assigned sets in the unpaid account. The free account also allowed the teacher to see the top scores for the Match and Gravity game and check on the students' activities to see whether they completed Learn or Spell out of class. The students' progress was checked by the teacher throughout this study and they were asked to spend at least half an hour every day out of class time to revise the words they learned. The following excerpt also shows how the teacher felt about this issue:

> *It might be more convenient to get a paid teacher account, but I am still able to track my students' individual progress in and out of class. Today, I got very happy upon seeing that almost all of my students completed the Learn and Spell, and most of them played the Match and Gravity games several times to beat each other's scores.* (Teacher reflective journal, March 2018)

In spite of these differences between the paid and the unpaid teacher account, Quizlet is still a useful and effective tool to expand the students' vocabulary knowledge by motivating them to study more and make even the less interested students eager to learn the target words with the help of games. It is obvious that they favor Quizlet Live game over Gravity or Match, as shown in the following excerpt:

> *The lessons start very early and most of the students feel sleepy. Today, I was supposed to teach some target words in the first lesson, and the students didn't seem interested in the reading that presented the target vocabulary items. However, when I told them to start studying the set and that we were going to play the Quizlet Live game afterwards, they got happy and motivated.* (Teacher reflective journal data, March 2018)

To wrap up, the comprehensive analysis of the findings of the reflective journals revealed that utilizing Quizlet as a mobile tool is favored by the teacher over vocabulary notebooks to introduce or teach the target words to the students. Additionally, the

teacher found this tool very helpful since it turns in-class revision of the target lexical items into a more entertaining game for the students. According to these findings, it is obvious that Quizlet is an effective tool that facilitates vocabulary learning in language classroom.

6. Discussion and conclusion

The findings of the present study revealed that Quizlet had a significant influence on the participating students' performance in vocabulary learning in the treatment group. Specifically, the ANOVA test showed that there was a significant difference between the pre- and post- test scores of the students who studied the target vocabulary via Quizlet. This significant difference between the pre- and post- test results of the treatment group indicates that the vocabulary retention can be attributed to the benefits of using flashcards and computer assisted language learning (CALL) with multimedia capabilities. These multimedia capabilities also support the findings of Mayer's (2005) study regarding the impact of Quizlet flashcards program on students' performance in vocabulary learning, indicating that the use of words and visuals together leads to better learning. The impact Quizlet had on students' performance in vocabulary learning and vocabulary retention can be attributed to dual coding theory (DCT), which is based on the principle that nonverbal and verbal systems are cognitively monitored subsystems that can activate one another. Therefore, the interconnected memory codes facilitate learners' recall of the target vocabulary items more than through the use of a single code (verbal or imagery) (Paivio, 1971).

Moreover, the results were in line with the study conducted by Basoglu and Akdemir (2010) who attempted to investigate the effectiveness of using flashcard applications to study vocabulary in undergraduate students' English vocabulary learning performance. The findings regarding the difference between using Quizlet and a vocabulary notebook in terms of the ability of students to use target vocabulary correctly and the main reason why mobile tools are more effective than vocabulary notebooks can also be seen in the recent research studies carried out in the field, which all conclude that mobile-assisted language learning tools provide the required amount of exposure to learn target vocabulary items (Thornton & Houser, 2005; Clark, 2013; Wang et al., 2015). The findings are also congruent with those of previous studies supporting the effectiveness of digital learning tools in that learning vocabulary through these types of mobile-based applications is a more effective method than studying and revising vocabulary items by means of paper-based strategies and tools. (Altiner, 2011; Azabdaftari & Mozaheb, 2012; McLean, Hogg, & Rush, 2013).

In addition, regarding how Quizlet helped students to improve their autonomy in vocabulary learning, similar results were gathered from Dizon's (2015) study which revealed that Quizlet is a useful and effective tool which promotes vocabulary acquisition and autonomy in vocabulary learning. Similarly, Kim et al. (2013) also found that students expressed positive feelings about using their own mobile devices which helped them to have a personalized learning experience out of class time.

This study found that the students who learned the target words through the different study and play features of Quizlet felt this mobile tool to be an easy and accessible tool to store, study and practice vocabulary. They asserted that using Quizlet made them feel confident that they learned the vocabulary items, and its game and study features enabled them to recall the newly acquired words easily and quickly. In sum, Quizlet was perceived to be quite easy to use by all the participants, which is also supported by Kálecký's (2016) study. Similarly, in studies conducted by Oblinger (2005) and Tran (2016), the majority of the learners enjoyed technology-based learning, which led to positive learner attitudes and helped them to enhance their vocabulary knowledge. Additionally, Kennedy and Levy (2008) and Stockwell (2010) also showed mobile applications and programs as more motivating and efficient tools to store and revise vocabulary.

Apart from the perceptions of the students, the teachers also had positive perceptions about implementing a mobile tool in their classroom practices which was parallel with Ghrieb's (2015) research indicating that both teachers and students have mostly positive attitudes towards the potential use of MALL to improve listening, speaking, and

reading skills as well as to reinforce vocabulary. Saidouni and Bahloul (2016) also supported the fact that the overall attitudes of students and teachers towards using mobile tools are mostly positive.

The overall findings of this study underscore the value of integrating mobile-assisted language learning and teaching tools like Quizlet into EFL teaching practices and curriculums, since it was found to be an effective and useful application that promotes students' performance and autonomy in vocabulary learning by providing them with spaced repetition and increased exposure to the target words through various functions and a game-like atmosphere to study and acquire the target vocabulary using their mobile devices both in and out of class. Based on all of these findings, it can be suggested that Quizlet and its functions should be used not only to teach the target vocabulary items in a language classroom by the teachers but also to learn and practice the target vocabulary by the students in and out of class time. It should be noted that this tool had a strong impact on vocabulary learning and retention, therefore, material designers and curriculum developers need to take notice of flashcard software programs while designing course materials or developing new educational tools. Flashcard applications have the potential to enable learners to acquire a greater number of words even over short periods of time since they promote intentional vocabulary learning with the help of increased exposure to the target lexical items by means of spaced-repetition. These findings also highlight the inevitable shift towards computer-supported collaborative learning (CSCL), which asserts that collaborative learning needs to be fostered through integrating technological tools into educational contexts to lead to more secure learning outcomes.

The use of flashcard applications and various features of these tools allow learners to retrieve the vocabulary items from their memory. EFL teachers may therefore assist students to develop effective strategies in order to be able to study using flashcards for self-testing or retrieval of the target words and revision through spaced-repetition. The majority of the participating students enjoyed spending a considerable amount of time without getting bored in and outside class time while studying on Quizlet, further demonstrating its effectiveness as a learning tool. Therefore, the students need to be informed about the boosting effects of intentional vocabulary learning and teachers need to motivate them to study deliberately on their own out of the class. In addition, the findings also indicate that using mobile learning and teaching tools increases autonomy in vocabulary learning by providing students with the opportunity to study and practice the target vocabulary on their own in a more entertaining and motivating way. As a result, mobile devices should be incorporated in language classrooms to aid students in their retention of target words and promote the enhancement of autonomy in vocabulary learning as well.

In order to throw more light on the issue and to get a deeper analysis, the qualitative data obtained from the semi-structured interviews and reflective journals indicated that both teachers and students perceived using a mobile tool to store, practice, and teach vocabulary in and out of class quite positively. The results of the current study also confirmed that explicit vocabulary learning through the use of a mobile flashcard program enabled learners to obtain better learning and retention outcomes.

In brief, learning the target words deliberately through the use of digital flashcard applications like Quizlet can and should be used to motivate the students, promote autonomy in vocabulary learning for lexical development in and out of class, and provide individual and collaborative learning opportunities.

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Book review

Blending Technologies in Second Language Classrooms

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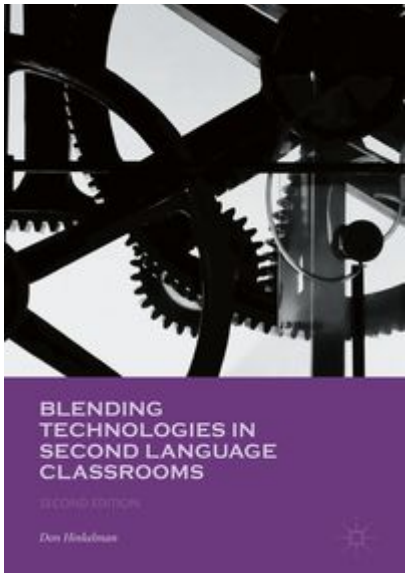

Blending Technologies in Second Language Classrooms

Don Hinkelman

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As a professor at Sapporo Gakuin University, Don Hinkelman's work explores teaching English as a Foreign Language (EFL) and intercultural communication. He was awarded Best Moodle Innovation of 2014: Video Assessment Module. Now, we are able to read his latest book, *Blending Technologies in Second Language Classrooms* (2018). Divided into 12 well-referenced chapters, each one including a summary, this timely work offers a panoramic view of blended methodology. Of special interest is the postlude where we find a number of final reflections on some of the fundamental issues developed throughout the book, as well as on the future of teaching. The chapters deal with major topics in the field of Blended Learning (BL) and successfully fulfill the objective of the study by presenting updated pedagogical methodology and providing useful strategies to teachers and researchers.

Chapter 1 traces the advances in BL. Considerations such as its purpose, as well as issues relating to multimodality, appropriateness, and sustainability are explained here. Understanding learning technologies is the focus of chapter 2**,** in which performance and the six dimensions of such technologies (actions, timing, grouping, spaces, texts, and tools) are well described.

The author continues to elucidate the evolution of language pedagogy in chapter 3 by revisiting the learning process. He uses the term "metaphor" to review learning as instruction, acquisition and socialization, as well as discussing the role and centrality of the environment in which learning takes place. Here, Hinkelman raises the question of whether learning ecology can unite language-learning metaphors leading to an "ecological paradigm of technology".

Chapter 4 explores the designs for blended language learning and considers blended environments as hybrid. Social media, flipped classroom, learner analytics, visible learning, quantified self, virtual assistant, as well as disruptive innovation elements are also dealt with here. Throughout these pages, the content ranges from task design to professional development benchmarks.

Chapter 5 addresses strategies for language learning: flipped teaching, from single media to multimedia texts, synchronous and asynchronous activities and gamification. Notwithstanding, and worthwhile noting, the author does not ignore paper assessment, face-to-face assessment and online assessment.

In chapters 7 and 8 the principles of research and action research in blended environments are discussed. Moreover, blended environments are approached from an ethnographic perspective, an often criticized research method which the author redeems and defends in chapter 9.

Chapter 10 deals with blended technologies in practice. This chapter will be of specific interest to teachers, who will find the explanations of some techniques and activities very constructive. Some of the activities covered include carouselling, where learners give micro presentations and their *partners* record them on a mobile phone so as to later discuss the performance according to a rubric, quiz-game based classroom response systems such as *Kahoot!,* an example of formative assessment to force reading and vocabulary use. Video assessment with papers and LMS rubrics are also dealt with.

Chapters 11 and 12 are devoted to the explanation of blended language lessons and blended language programs in practice. Researchers in this field will learn from the author´s experience, since the results he observed were not always satisfactory regarding the pedagogical effectiveness of these programs. Despite this, the author posits possible explanations for the unexpected performance in some cases.

To sum up, this book represents an excellent contribution to the field for EFL teaching and learning. The writer shows, quite in line with Goffman (1974), how much has been done in this area of research from the diverse perspectives of teachers, administrators, and researchers. Hinkelman's writing allows the reader to easily follow the evolution of BL beyond Computer Assisted Language Learning to its establishment as a paradigm within Second Language Teaching and Second Language Acquisition. Constituting a new perspective on BL, the book explains in an enlightening, logical, and coherent way, how this new model combines communicative and Task Based Language Teaching principles, integrating new roles and concepts such as "ICTs ecology". What differentiates this book from others in the field is that it is not limited to the study of BL in the classroom but also covers research and curricular design, thus achieving a global vision of the construct. At a time when teachers seem to have chosen the "no method" option, it would seem that this trend has been surpassed by the inevitable presence of Blended Learning, which, according to Hinkelman, is the new future of learning.

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