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FROM THE EDITOR

by **Jarosław Krajka**
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The new year marks the opening of the nineteenth volume of *Teaching English with Technology*, a journal joining academic research and practical applications in a single publication. Throughout all those years since 2001 we have been trying to make sure that both well-documented carefully-conducted studies and literature-based practical proposals will find their way to the general teaching audience. We believe foreign language teaching is the area where theory and practice are so closely intertwined that any attempt at separation or exclusion of practice-based accounts would be artificial and counter-productive.

This middle-of-the-road position does not mean less strict editorial standards or acceptance of any kind of personal accounts from the classroom. Understanding classroom problems and evaluating the validity of individually-proposed solutions must be based on prior literature review, on a required level of methodological rigour to achieve objectivity, not to mention linguistic and editorial precision. We hope the readers of *Teaching English with Technology* will find these qualities properly represented in each and every issue.

The January issue is the first one in which the editorial team has been supported by a new assistant to editor, Marcin Mizak, Ph.D., from Maria Curie-Skłodowska University (Poland). Himself a highly creative phonetics teacher and linguist, Marcin will take over the duties of monitoring submissions, managing reviews and contacting authors. TEwT will surely expand its presently wide scope with this renewed energy and skills brought by Marcin.

The current issue of the Journal presents a rich mix of topics, countries and contexts in which technology-mediated instruction takes place. Quite predictably, differences in access, provision of technology, development of CALL teacher training will result in diverse views and proposals from different countries. In this way or another, all the authors try to enhance and improve the quality of language teaching via implementing computer-based procedures.

The issue opens with the article “Using Whatsapp to Extend Learning in a Blended Classroom Environment” by **Nagaletchimee Annamalai** from Malaysia, who reveals strengths and limitations of Whatsapp as an EFL interaction environment. The topic of learners’ interaction in Computer-Mediated Communication settings is continued in the article

by **Maryam Farnia** and **Keihaneh Karimi** from Iran, who show how humour can be conveyed in Viber-based text chat, distinguish a number of categories and prove emoticons outweigh other categories of humour.

The effect of flipped instruction on writing improvement was investigated by **Ramyar O. Qader** and **Fadime Yalcin Arslan** (Turkey), who showed a statistically significant difference in writing skills of the group exposed to Flipped Classroom Instruction. A similar university context, however, with social media used in ESP instruction, has been taken up by **Hadoussa Slim** and **Menif Hafedh** from Saudi Arabia. The study proved high satisfaction level and motivation-building effect of Facebook-tutored instruction, even though no statistically significant difference was found in terms of vocabulary improvement.

Mobile-based learning is a highly researched topic nowadays, hence, its coverage also in this issue of TEwT. **Graham Howlett** and **Zainee Waemusa** (Thailand) investigated school students' beliefs about learner autonomy in mobile-based learning, concluding that since mobile devices increase satisfaction, modern learners are ready for autonomous learning in a technology-rich setting.

Computer-based testing has been taken up by a team of researchers from Iran (**Hooshang Khoshsima, Seyyed Morteza Hashemi Toroujeni, Nathan Thompson** and **Mohammad Reza Ebrahimi**). The current study conducted to investigate whether test scores of learners were equivalent across Computer-based testing and Paper-based testing modes showed high preference and more advantages for CBT over PBT, with, however, insignificant outperformance of CBT over PBT learners.

Access to and use of new technological devices by university students who are not native speakers of English was investigated in the study by **Salah Alfarwan** (Saudi Arabia). The research proves that smart phone has the greatest potential for further exploitation in relation to English. Pedagogical recommendations on reaching learners in possession of those different devices can be found in the article.

The same country yet a different context (automated writing feedback) is the topic of the article by **Mohammed Ali Mohsen** and **Abdulaziz Alshahrani**. The authors found that under the hybrid condition (automated writing evaluation+teacher assessment) students significantly outscored the learners with the AWE program only.

The issue concludes with a software review of *Telegram* by **Sajad Faramarzi, Hossein Heidari Tabrizi** and **Azizeh Chalak**, which guides our readers step-by-step into setting up, operating and exploiting the program in everyday teaching.

We wish you good reading!

USING WHATSAPP TO EXTEND LEARNING IN A BLENDED CLASSROOM ENVIRONMENT

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Abstract

This study explored the use of WhatsApp chat group as a platform for extending learning in a blended learning classroom with a small group of undergraduates in the Malaysian context. The aim was to provide learners with the opportunity to reflect the strengths and challenges of using the WhatsApp as an extended learning platform. The students' reflections were further supported by the online interaction archives. Findings revealed that the majority of the students expressed the preference for WhatsApp in their reflections. However, certain problems were also identified in this study. Based on the findings the study has outlined certain pedagogical implications that can be a guide for the future use of apps in teaching and learning activities.

Keywords: WhatsApp; instant messaging; Computer-Mediated Communication

1. Introduction

The diffusion of mobile technology (MT) has attracted a great deal of attention from practitioners and researchers to integrate mobile technology innovatively in diverse learning. According to Johnson et al. (2014) and UNESCO (2012), schools have started to adopt a trend called *'Bring your own device'* (BYOD) that permits learners to bring their own mobile devices as a way to encourage learning. Such learning practices seem to be the perfect companion with the digital natives' nature of learning who prefer activities that involved multi-tasking, virtual interactions and collaboration.

A large number of studies have also recognized the crucial role of mobile technologies in making learning more effective. In language learning, Hwang and Tsai (2011) found that the research trends from the year 2001 till 2010 were chiefly focused on mobile learning. These studies have utilized different types of methods with constructivism and collaborative framework that showed positive outcomes.

One of the most popular MIM applications in the market is WhatsApp, which is the focus of this study. A growing body of research has also reported on the use of WhatsApp in mobile learning. Lai (2016) investigated the use of WhatsApp in vocabulary building and found a significant correlation between a learner's chat and vocabulary gain. Andujar (2016)

examined the use of WhatsApp interactions on ESL students' writing skills and found that there were differences between the control group and the experimental group. Nevertheless, he concluded that the findings for syntactic complexity and lexical diversity were not conclusive. In his words, "WhatsApp constitutes a powerful educational tool to encourage second language interaction among participants and its tremendous potential to activate students' involvement remains one of the least exploited functionalities of mobile phones" (p.63). Andujar's statement provides a glimpse of the existing literature to identify the research gaps and guide future studies to provide directions into the less ventured area related to mobile technology.

At a time when mobile learning is gaining attention from researchers and practitioners, it is pertinent to investigate the students' reflections on the use of WhatsApp in educational contexts. The exploitation of WhatsApp to investigate students' reflections is an under-researched area and more is to be discovered in relation to how students choose and utilize WhatsApp on their own initiative for learning purposes in formal and informal settings. Moreover, Sharpes et al. (2010) have pointed out that it is pertinent to investigate the relationship between technology and people and very often the technology users get less attention from researchers. Studies related to technology users are pertinent for future instructors and practitioners to design mobile learning pedagogical practices with minimal obstacles. This certainly points to the necessity for researchers to investigate the users' reflections in the use of mobile technology.

In Malaysia, WhatsApp is a popular social media. A recent survey carried out by The Digital News Report (2017) found that Malaysians are the world's largest users of WhatsApp at 51 per cent. Moreover, WhatsApp is receiving attention from the teenagers and it is pertinent to explore the reflections of mobile learning held by learners as one of the key classroom components. Malaysians are familiar with the use of WhatsApp and, obviously, no training will be required for the participants. In the Malaysian context, studies have addressed the role of WhatsApp in the educational context (Mistar & Embi, 2016; Man, 2016, 2017; Ahad & Lim, 2014; Ganasegaran, 2017). However, despite the proposed advantage of WhatsApp, very few studies have addressed the students' reflections and views qualitatively particularly in the Malaysian institutions in blended learning classrooms.

Adopting a case study approach, this study sought to explore the students' reflections after their engagement in the virtual environment via WhatsApp for interactions and collaboration related to their course. It is hoped that the findings extend and broaden the body of knowledge in mobile learning and application of apps in the educational context.

2. Literature review

2.1. Background to the study

The literature related to apps in general and WhatsApp in particular offers some guidance towards the expected results for the current study, nevertheless, it is important to take note of how the students' needs and preferences vary in different settings and contexts. Secondly, most of the literature in the Malaysian context is based on surveys to quantify certain elements and variables. Although quantitative analysis has its own strengths, this study will address the direct reflections of students via WhatsApp. A qualitative study as the one proposed in this study is timely to further enhance the findings related to apps in education. In fact, a recent systematic review related to mobile learning indicated that mobile learning research which include apps are very much related to mathematics and science and more mobile learning research in arts subjects are needed (Crompton et al., 2017).

The study is based on the activity theory, which focuses on activity as a unit of analyzing human practices (Bakhurst, 2009). The theory was suggested by Vygotsky (1978) and gives importance to how cognitive development is a socially-mediated activity in which language plays a crucial role. The theory was further enhanced by Engestrom (1999) by enlarging the components of the activity theory and detailing the dynamic relationship of the components by suggesting a visualization system with triangles. A number of studies have documented the use of activity theory in mobile learning (Zurita et al., 2007; Park, 2011; Liaw et al., 2010).

Sharpes et al. (2007) have revised the activity theory for mobile learning and suggested a framework for mobile-assisted language learning (MALL). The activity theory and mobile assisted language consist of:

a. subjectivity in the MALL activity, which involves the participants in the MALL activity;
b. objective of the MALL activity, which focuses on the goal of MALL, such as acquiring language skills or enhancing learning motivation through mobile devices;
c. tools/ instruments in the activity, which are norms or regulations that circumscribe the MALL activity, such as the procedure in teaching scenarios designed for MALL or the learning pace or styles designated in MALL platforms;
d. rules/control for the activity, which are norms or regulations that circumscribe the MALL activity such as the procedure in teaching scenarios designed for MALL;
e. context of the activity, which refers to physical, social, environment for conducting MALL;

f. communication/interaction, which refers to the method of interactions between users and MALL technologies or communicating styles among MALL learners (face-to-face vs. computer-mediated-messaging).

2.2. Mobile technologies in educational context

Due to learners growing interest in and engagement with mobile devices and social media, a growing number of studies tend to adopt social media platforms in formal learning. Several studies have found advantages of using mobile technologies in formal education such as vocabulary learning (Lu, 2008), develop ESL writing (Anjudar, 2016), technical advantages (Bouhnik & Deshen, 2014) and idea sharing platform (Ahad &Lim 2014; Man, 2014).

However, studies also found adverse implication of the use of mobile learning. For example, Hunaiyyan et al. (2016) conducted a study in Kuwait higher education institutions and found that video-based social media was useful. However, they reported on social and cultural aspects that became the obstacle in implementing mobile learning. Schmitz et al. (2012) reviewed studies that supported mobile-collaborated learning from the years 2004-2011 and found that there was no adequate evidence to conclude that mobile games improve learning outcomes. Similarly, results from another review of studies by Cheung and Hew (2009) revealed that there were no significant differences in students' test scores for studies that employed mobile devices and paper and pencil treatments. The dark side of the mobile phones was also related to health problems. Findings have warned about the electromagnetic radiation, hearing impairment and psychological disorders (Block, 2008).

Although there have been valuable syntheses of previous research, there are more areas that need further investigation. Some suggestions have been made to address the issues highlighted in previous studies. For example, Mouza and Greenly (2015) highlighted that more research is needed to provide teachers with the support and a clear vision on how mobile devices can be used for meaningful improvement in the educational context. Chang et al. (2016) discovered that most studies related to mobile technology are related to pedagogical practices, interactions and collaborative framework. They pointed out that studies related to motivational strategies and facilitating learning motivation are scare. Lecturers or teachers would have abandoned the motivational element and assume that the positive characteristic of mobile learning will bring positive outcomes in learning (Huett et al., 2008). However, this study is not about motivational theories, and the qualitative approach will be able to investigate the positive and negative experiences via students' reflections. At a time when WhatsApp is gaining attention in Malaysia, it is pertinent to explore the experiences held by students and

teachers. Reflections have a profound influence on the learning process and will add more knowledge to the existing literature to provide support to the developing mobile technologies in learning.

This study addresses the research question of what the students' reflections on the use of WhatsApp to extent their learning are. It is hoped that the study will shed light and provide valuable evidence for designing strategies and maximizing the potential of WhatsApp as a platform for enhancing interactions, collaborations and engagement in the blended environments.

3. Method

The study is a qualitative interpretative case study with a small group of undergraduate students in a higher institution. A case study focuses on describing process, individual or group behaviors and provides an intensive in-depth description and analysis of a single bounded unit placed in a specific context (Merriam, 2009). It offers a greater understanding of the event being investigated and reduces the potential for any bias, by diluting the agenda of a particular individual. In this study, case study is a research design employed to a very broad field of research: technology and education. Students' reflection and online archives were employed to gather in-depth information on the use of WhatsApp by a small group of Malaysian students. It is hoped that this study will offer guidelines for further research and hypothesis creation on this subject.

3.1. Participants

Ten part-time students were involved in this course. The students were briefed on the purpose, the nature of the study and its ethical considerations. After the briefing only six students were willing to participate, five females and one male. According to Perez-Sabater & Rising (2009), it is best for students to work in small groups for better cohesion, intimacy, safety and trust. Furthermore, the data collected by the researcher was sufficient for discussion. After obtaining the permission from the Ministry of Higher Education the study employed purposive sampling to engage participants in the WhatsApp platform. Their English proficiency levels were determined as high intermediate and advanced based on the local standardized General English proficiency test. The course is for the undergraduate first semester students (Advanced Writing Skills) in a blended learning environment. The course design involves face-to-face classroom interactions and interpersonal communications roundtable sharing slides to humanize the learning activities. The learning materials were covered monthly. The instructor met the

students for 3 hours each week for three times. The ten students in this course were the second intake students. Therefore, the duration to complete the course is short and they need to have a three-hour lecture for three face-to-face lectures. There were five units and the lecturer covered two units for every meeting. The students have to prepare two written assignments and sit for their final examination on the 14th week. The written assignments were 40% each and their examination was 60%. Students were given pseudonyms and consent forms were signed in the 1st week. The duration of the study was 12 weeks.

3.2. Research procedure

The data collected and analyzed include reflections and online archives. The use of online archives serves as a layer of triangulation to the qualitative data. After the traditional classroom lectures, students were given the flexibility to choose the social media they are comfortable with. The students opted for WhatsApp although other platforms such as Facebook, Google docs and the Learning Management System (offered by the university) were available. The reason for their choice was because all students were familiar and used it regularly. They were given the flexibility of discussing any matters related to their course such as content, instructions, feedback on written assignments, units and also exam questions. A group leader was selected to set up the group and add the members in the virtual space where students were encouraged to discuss their syllabus, assignments and exam questions.

The WhatsApp group was active for 14 weeks, during which the instructor interacted when necessary. For the first six weeks the instructor was not really active as she wanted the students to independent deal with the syllabus and assignments. As soon as the students completed both their assignments, the lecturer encouraged them to discuss the past year examination questions.

3.3. Data collection and analysis

Students were instructed to write their reflections on the 16th week after engaging in the WhatsApp group. Reflection is viewed as an important tool for "advanced thinking skills such as problem-solving, critical analysis, synthesizing, determining patterns and evaluation" (Cevik 2014, p.718). Cevik et al. found that learning is a metacognitive act and learners should examine thoroughly on what they have been experiencing. Students were told to reflect on how they were engaged in the WhatsApp group to complete their course and prepare for their examination. The guiding questions for the students to write their reflections are as follows:

a) How did the engagement in the WhatsApp group assist you in completing your assignments and prepare for your examination?
b) What are your positive and negative experiences while students were engaged in the WhatsApp chat group?

Students' written reflections were analyzed in an iterative manner as suggested by Akerlind (2005). Thematic analysis was employed and the reflections were analyzed based on four phases of thematic analysis provided by Braun and Clark (2006). The four phases of thematic analysis are: 1) Familiarization with the data; 2) Coding; 3) Searching for themes; 4) Reviewing themes. According to Cevik et al. (2014), the purpose of the three stages was to make certain that all the coded extracts for a theme were coherent. If they were found not coherent, the entire process of coding and identifying was conducted again. The main themes and sub-themes were further considered for reliability by two other coders. The Kappa Value was 0.8. The emerging themes were further triangulated with the online archives. All the online interactions were automatically logged and stored in the WhatsApp system.

4. Findings and discussion

The emerging themes were categorized into positive and negative reflections. Students appreciated the WhatsApp platform in the way that it provides them with the opportunity to actually use language in an authentic content. A total of 574 messages were contributed by the six students and a lecturer. The positive and negative emerging themes were supported by the online archives in the following section. Their reflections are presented as they are with language errors committed by the participants.

4.1. Learners' empowerment

A key affordance of WhatsApp is its flexibility to interact without time and space constraints. Students have better control of their learning activities and submission of assignments. Besides, students are able to decide upon the approach to be taken to do their revision and to prepare for their examination. One of the students described:

> P1… to clarify small details of TMAs or final exam such as due dates, exam venue time and TMA format reminder. This is also very useful for me to get a general idea what other group members are doing and just to make sure that I am on the right path.

In the reflections, it was found that students were able to reach consensus on their replacement classes by considering the need for everybody to attend the classes. The students explained:

> P1 … Attendance rate is always good at the beginning and going downhill as we move along. The easiest and the fastest way to make sure those who absent from tutorial sessions are able to catch on important matters discussed during tutorial sessions. I snap photos on what the entire class has done. I record presentation during tutorial and share on LMS or somehow they can't find it on LMS.

Rather than contacting the instructor, the students took responsibility to interact with peers to gather important information. This certainly facilitated academic growth and self-efficacy among students. In other words, WhatsApp was a positive atmosphere for learning. For example:

> P4: if the tutor is busy and not picking up my phone call, I can directly send her a WhatsApp message as she read it immediately after her work is done

Figure 1 illustrates the students' interactions when they had problem submitting their assignments to Turnitin.

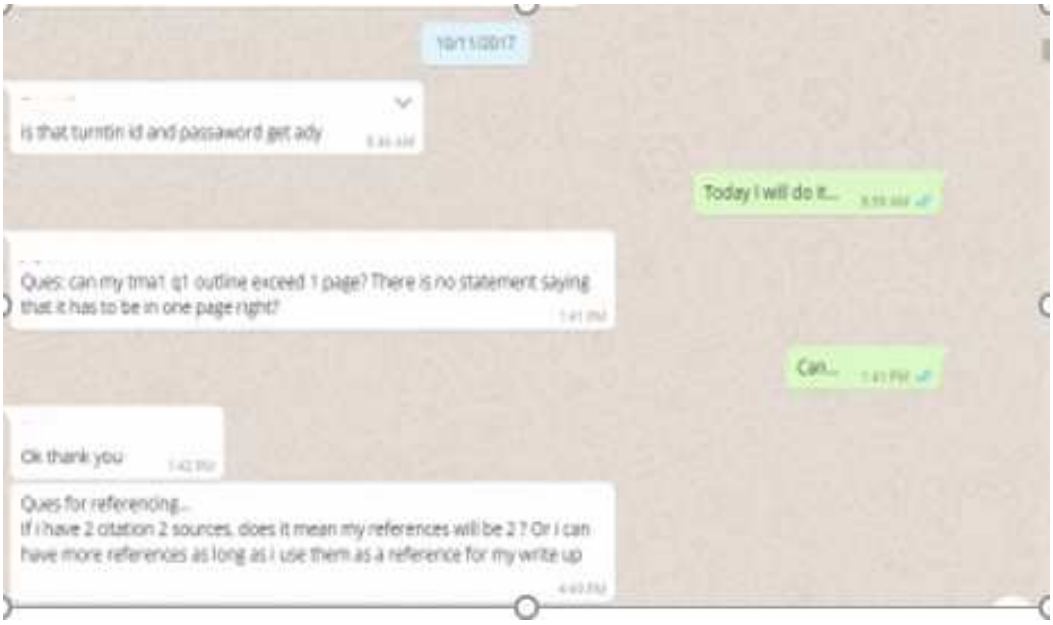

Figure 1. Online archives related to Turnitin submission

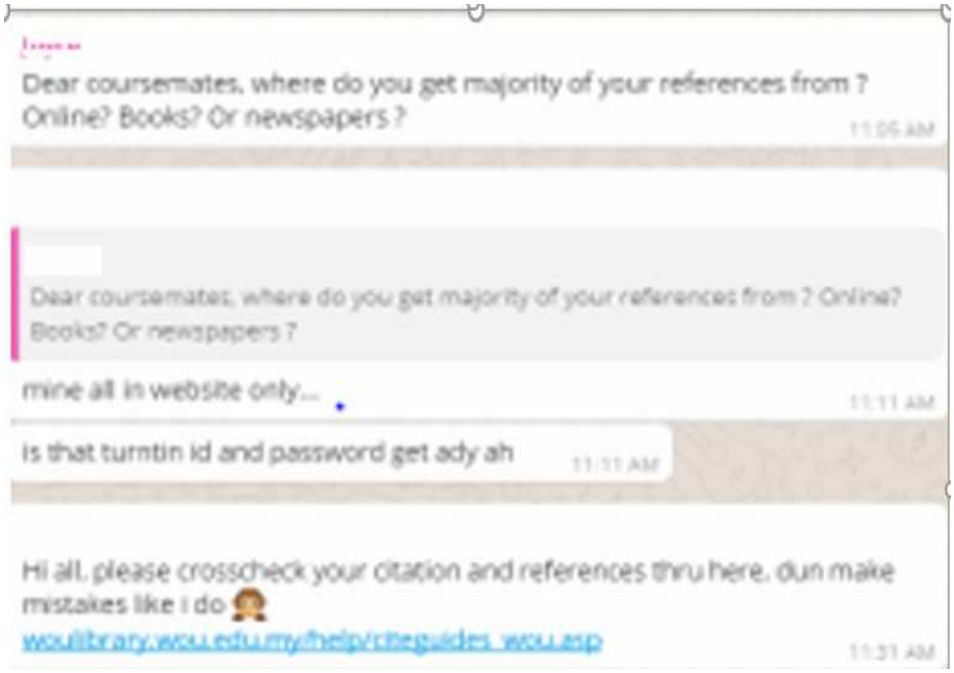

Figure 2 illustrates the interaction among group members on issues related to references and citations.

Figure 2. Online archives related to their doubts about the citations and references

Students were actively interacting in the WhatsApp chat group and updating the group members of important activities related to their assignments and examination. In fact, the students were together and were concerned about the group members till they set for the examination. This was found in their interactions in the WhatsApp group. The members became worried when one of the members was late for an exam. Such co-operation is very

much needed for the part-time students. Figure 3 illustrates the interactions related to the friend who was not able to find the exam hall.

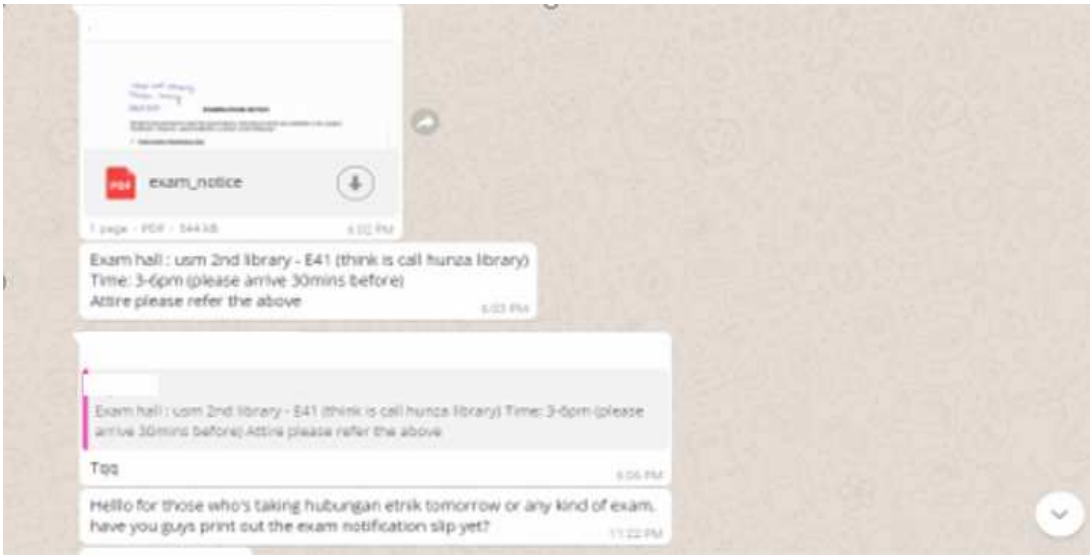

Figure 3. Online archives related to the friend who was not able to find the exam hall

Significant findings emerged from the current study. The participants detailed the rationale for favoring WhatsApp as a platform to interact. As it appears from the findings, the use of WhatsApp is consistent with the previous finding by Lai (2016) and Andujar (2016) that WhatsApp is a worthwhile and promising app for learning and can be assessed wherever they are located.

4.2. Knowledge concretization and consolidate learning

Materials shared by students allow them to assimilate what they have learned in the face-to-face interactions and imbibes skills easily. As the attendance for face-to-face classroom is not compulsory and many of the students are working adults, the apps seems to be a platform for them to share what was discussed with the lecturer in the traditional classroom. The discussion basically expanded their learning. Participants expressed the following ideas:

> P2… gives a better view of everything that is relevant for … and increases the learning skills
>
> P4… can learn more by watching the video over and over again to make sure they get the lesson
>
> P1… WhatsApp was formed on the first day of my tutorial to assist the entire learning process and act as a secondary medium of material sharing, short discussion and knowledge transfer.

Figure 4 illustrates the video shared by the group members.

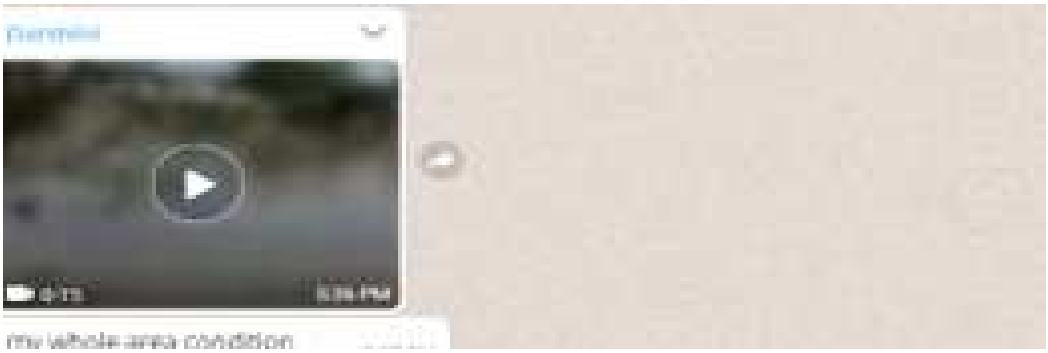

Figure 4. Video shared by the group members

Figure 5 illustrates the relevant materials related to their course that was shared by the group members.

Figure 5. Online archives related to materials shared by the group members

What is also evident is the bite size learning. Students are able to understand the gist of the lessons and able to deliver it to their friends. Ideas and knowledge are broken down into small chunks. Materials assessed in mobile learning have to be concise and short for students to create learners' experiences because students are not in classroom settings to focus on lengthy modules. In this study the three hour' lecture and discussion has been transformed to effective framework as visible in Figure 6.

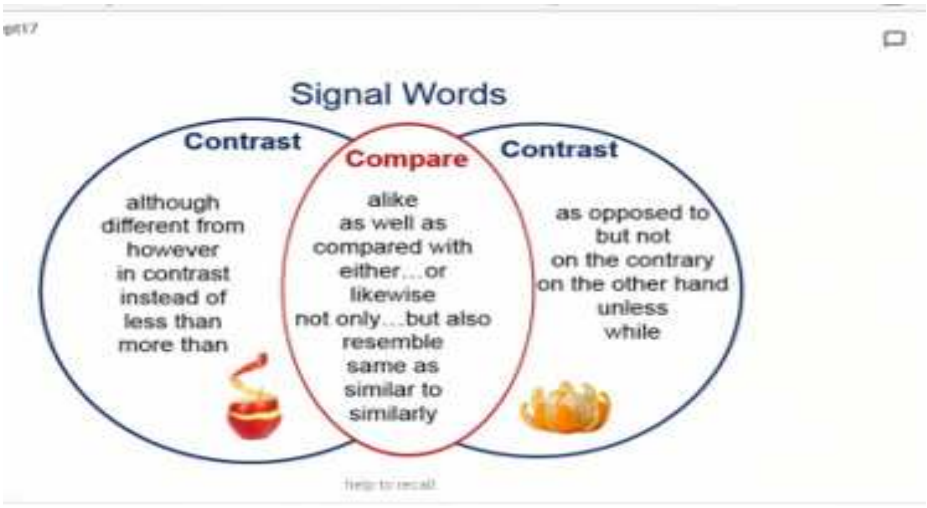

Figure 6. Lectures transformed to diagram

Another important contribution of this study is when students are able to know the gist of the lessons and the friends are able to process the relevant information cogently. In other words, bite size learning is evident in the WhatsApp interactions. According to Boyette (2012), a study conducted by the Rapid Learning Institute found that learners prefer bite size online learning modules instead of depending on bulky notes. Bite sized learning permits learners to digest idea or knowledge before moving on to next idea (Stahl et al., 2010).

The online archives (Figure 7) document the WhatsApp interactions related to how to write a good proposal. The students summarized the lectures and shared with the WhatsApp group, thus taking ownership of their learning. The study is in line with Chipunza (2013), who claims that WhatsApp allows students to express their ideas and knowledge in a non-restricted environment. However, at times they need to consult the lecturers on certain issues. The role of teacher as a facilitator is certainly evident in the interactions when they were not able to decide on certain issues. The students also shared relevant topics that they need to consider for their exams by highlighting the key words. Figure 7 illustrates the interactions related to exam topics.

Figure7. Online archives related to exam topics

4.3. Portability and accessibility

Students have constantly highlighted the portability and the accessibility of WhatsApp smoothly without time and space constraints. They took screen shots of slides used in their classroom and shared them with other friends who were not able to make it for the class. Video clips and other web materials were used in their discussions. Students highlighted that they were at work and were able to respond to the chat related to the assignment without any constraints. It seems WhatsApp has achieved the status to support pedagogical practices at any time anywhere with immediate results which cannot be achieved with the desk bound computers. This added dimension can be effectively manipulated by instructors for learning. There were various degrees of experience highlighted by the participants in this category:

> P1…able to post anything real quick and then get fast respond from a member for their answer
>
> P3… I am carrying my cellphone more often than my laptop, it will be very useful for last minute short notes revision if I Posted it on WhatsApp
>
> P4… it is easier for us to reach because I'm usually on my phone during the day without login in into website or app
>
> P4: ...convenience, check if the receivers read he message or not
>
> P5: … it is one of the easiest software. It can be downloaded in our mobile phone. It also saves cost and time.
>
> P5: Easy to bring anywhere… it is a wonderful app to me

Based on the above excerpts it is obvious that WhatsApp is an easy and effective application for learning. In fact, as Bouhnik and Deshen (2014) highlight, "WhatsApp might be the first technology that entered class without any training or administer supervision, as teachers and students are using in their private life and its advantages enabled it to become naturally, an educational technology" (p.229). Further, Berger (2011) highlights that mobile learning brings the shift from learning anywhere anytime to everywhere and every time.

4.4. Challenging issues

The students' reflections on challenging issues were determined in the sub-themes as overloaded messages, small screen and technical problems. Admittedly, the main challenge expressed by the students in their reflections is the overloaded messages. Students expressed their dissatisfaction when being swamped by too many messages that upsets the receivers. The following excerpts from reflections are selected as representative.

> P2: Most of the time. There seems to be too much for you to read if you turn off your data or Internet for a short time or a whole day. The situation becomes more alarming if one receives over 100 messages to read in only one chat group…

Another student mentioned that it is difficult to gather all the information if once the phone is problematic by saying:

> P1: …can't recover back once phone has been lost of your smartphone no function?

Other challenges were related to identifying the sender of the message. The participant emphasized that:

> P3: when you read a message, it is written by the actual person? or is it written by someone else? There is no way to verify that. I can just assume the person that replied me is the owner…

Technical problems are a common and significant issue in mobile learning environment. Students have expressed their dissatisfaction:

> P5 Must have Internet access to send and received message
>
> P3 … it is a waste of time like any other social media platforms. its easy accessibility enables one to read anywhere and this can be time consuming. This also calls for spending more time typing the messages to the recipient.
>
> P3… chat group is wasting of Internet bundles and one's credit more especially on irrelevant issues

These findings are further supported by Qureshi (2012); Park (2011); Bakari et al. (2005), namely that technical challenges seem to be a major concern in implementing mobile learning. It is also mentioned that the screen is cumbersome for text input. The small screen in a way provided them to focus on ideas and knowledge through pictures, graphs and diagrams. These findings are consistent with those obtained by Wang et al. (2009) and Cheng et al. (2008) that mobile technology is challenged with limited screen size, small batteries and storage capacity.

4.5. Pedagogical implications

The present study was designed to investigate the students' reflections after their engagement on the WhatsApp chat group to extend their learning. One of the additional conclusions that can be drawn from the current study is that the interactions were more focused on cognitive load in general. The WhatsApp chat group was used to exchange information about assignments, exam procedures and shred very basic idea and knowledge about their course. In other words, deep learning (higher order thinking skill) was not taking place. The WhatsApp platform was not suitable for learning achievement and course design discussions that need intensive reading writing and individualized feedback. This is probably because of the size of the screen and space for writing. Therefore, the students need guidance and pedagogical interventions to maximize the use of social media to support their learning goals (Cigognini et al., 2011). While studies have highlighted that students should be given the flexibility to choose a preferred online platform or activities (Cheng & Chau, 2016), the teacher needs to suggest or integrate

other online document format and collaborating tools such as Google doc, PB works and Mixed Ink when instructors realize that WhatsApp is not suitable to discuss essays or assignments.

It is pertinent for teachers to decide wisely based on the activities and task given to them. By doing this, negotiation of ideas and deep learning will take place. There is a tendency for instructors to assume that adult learners are able to use technology efficiently. Exploiting WhatsApp for educational contexts demands pedagogically wise and sound learning methods and incorporating other relevant tools based on the task given. For this reason, the teachers' effective intervention is needed from the beginning of their interactions.

This study is not about claiming that the WhatsApp platform will lead to effective learning, but it can suggest that the need for teachers to consider the popular apps among learners and further consider WhatsApp intentionally to achieve best and most effective practices by integrating other technology tools which allows meaningful outcomes. The emerging themes provide a frame of reference for lecturers to consider about how to use the apps wisely and to overcome the limitations. According to Cook-Sather (2006), learners should be given the opportunity to express their experiences to effectively shape educational practices. Similarly, Fielding (2004) pointed out that learners' voices have 'transformational potential' for educational practices and educational practices will not succeed within learners' direct involvement. New assessments are needed to enhance students' abilities to organize their learning and advance their self-direction when they are put in the online environment. The interactions and fruitful collaboration should also be considered as part of the assessment to encourage the use.

5. Conclusion

In the era when the use of social media apps is scaling up, learners should be encouraged to integrate informal learning activities to support and enhance formal learning. This study provides a better understanding of the use of WhatsApp for language learning in general and English writing skills in particular. Evidently, mobile technology in education is also faced with an array of challenges that must be addressed if high standards of education quality and relevance to students need to be sustained and to determine the best practices for future learning. Studies must attend to the affordances and the limitations in various contexts that influence the use of apps and how students interact and learn in the online learning environment. To improve our integration of mobile technology in higher education, we should continually discover evidence of what, how and why it works, otherwise effort and time will be wasted if our anecdotal ideas turn out to be inaccurate and fallacious.

The study is an initial exploration into a new terrain and the study offers insights based on a small scale study of introducing WhatsApp in an undergraduate blended classroom in the Malaysian settings. This will certainly necessitate the implementation of robust quantitative as well as qualitative research. The findings of this study have laid the ground work for future research for the use of smartphone and apps in education.

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References

Ahad, A. D., & Lim, S. M. A. (2014). Convenience or nuisance? The 'WhatsApp'dilemma. *Procedia-Social and Behavioral Sciences*, *155*, 189-196.

Andujar, A. (2016). Benefits of mobile instant messaging to develop ESL writing. *System*, *62*, 63-76.

Akerlind, G. (2005). Phenomenographic methods: A case illustration. *Doing Developmental Phenomenography*, 103.

Bakari, J.K., Tarimo, C.N., Yngstrom, L., & Magnusson, C. (2005). State of ICT security management in the institutions of higher learning in developing countries: Tanzania Case Study. Paper presented at the Fifth IEEE International Conference on Advanced Learning Technologies (ICALT'05), 1007-1011.

Block, J. J. (2008). Issues for DSM-V: Internet addiction. *The American Journal of Psychiatry*, *165*(3), 306-307.

Bouhnik, D., & Deshen, M. (2014). WhatsApp goes to school: Mobile instant messaging between teachers and students. *Journal of Information Technology Education Research*, *13*, 217-231.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101.

Boyette, M. (2012, May 12). RLI survey: Bite-size learning is hot at ASTD Conference, but execution is lagging back on the home front. Retrieved on November 20, 2017 from https://rapidlearninginstitute.com/news/rli-survey-bite-size-learning-hot-astd-conference-execution-lagging-back-home-front/

Çevik, Y. D., Çelik, S., & Haşlaman, T. (2014). Teacher training through social networking platforms: A case study on Facebook. *Australasian Journal of Educational Technology*, *30*(6), 714-727.

Chipunza, P. R. C. (2013). Using mobile devices to leverage student access to collaboratively-generated resources: A case of WhatsApp instant messaging at a South African University. In *International Conference on Advanced Information and Communication Technology for Education ICAICTE,* pp. 331-337.

Cheng, G., & Chau, J. (2016). Exploring the relationships between learning styles, online participation, learning achievement and course satisfaction: An empirical study of a blended learning course. *British Journal of Educational Technology*, *47*(2), 257-278.

Cheung, W. S., & Hew, K. F. (2009). A review of research methodologies used in studies on mobile handheld devices in K-12 and higher education settings. *Australasian Journal of Educational Technology*, *25*(2), 153-183.

Cigognini, M. E., Pettenati, M. C., & Edirisingha, P. (2011). Personal knowledge management skills in Web 2.0-based learning. In M. J. W. Lee (Ed.), *Web 2.0-based e-learning: Applying social informatics for tertiary teaching* (pp. 109-127). Hershey, PA: IGI Global.

Cook-Sather, A. (2006). Sound, presence, and power: "Student voice" in educational research and reform. *Curriculum Inquiry*, *36*(4), 359-390.

Crompton, H., Burke, D., Gregory, K. H., & Gräbe, C. (2016). The use of mobile learning in science: a systematic review. *Journal of Science Education and Technology*, *25*(2), 149-160.

DeWitt, D., Naimie, Z., & Siraj, S. (2013). Technology applications used by first year undergraduates in a Malaysian public university. *Procedia-Social and Behavioral Sciences*, *103*, 937-945.

Engeström, Y., Miettinen, R., & Punamäki, R. L. (Eds.). (1999). *Perspectives on Activity Theory*. Cambridge: Cambridge University Press.

Fielding, M. (2004). Transformative approaches to student voice: Theoretical underpinnings, recalcitrant realities. *British Educational Research Journal*, *30*(2), 295-311.

Ganasegeran, K., Renganathan, P., Rashid, A., & Al-Dubai, S. A. R. (2017). The m-Health revolution: Exploring perceived benefits of WhatsApp use in clinical practice. *International Journal of Medical Informatics*, *97*, 145-151.

Heng, C. H., & Ling, T. L. (2014). Interactive Character Learning Model (ICLM) – Chinese character learning using WhatsApp for Malay L3 learners. *US-China Education Review*, *4*(11), 772-786.

Huett, J. B., Kalinowski, K. E., Moller, L., & Huett, K. C. (2008). Improving the motivation and retention of online students through the use of ARCS-based e-mails. *The American Journal of Distance Education*, *22*(3), 159-176.

Hwang, G. J., & Tsai, C. C. (2011). Research trends in mobile and ubiquitous learning: A review of publications in selected journals from 2001 to 2010. *British Journal of Educational Technology*, *42*(4), E65-E70.

Johnson, L., Adams Becker, S., Estrada, V., & Freeman, A. (2015). *The NMC Horizon Report: 2015 Higher Education Edition*. New Media Consortium. 6101 West Courtyard Drive Building One Suite 100, Austin, TX 78730.

Lai, A. (2016). Mobile immersion: an experiment using mobile instant messenger to support second-language learning. *Interactive Learning Environments*, *24*(2), 277-290.

Liaw, S. S., Hatala, M., & Huang, H. M. (2010). Investigating acceptance toward mobile learning to assist individual knowledge management: Based on activity theory approach. *Computers & Education*, *54*(2), 446-454.

Lu, M. (2008). Effectiveness of vocabulary learning via mobile phone. *Journal of Computer Assisted Learning*, *24*, 515-525.

Man, C. K. (2014). Word's up with WhatsApp: The use of instant messaging in consciousness-raising of academic vocabulary. In *23rd MELTA and 12th Asia TEFL International Conference*, 28-30.

Mistar, I., & Embi, M. A. (2016). Students' perception on the use of WhatsApp as a learning tool in ESL classroom. *Journal of Education and Social Sciences*, *4*, 96-104.

Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative Research: A Guide to Design and Implementation*. San Francisco: John Wiley & Sons.

Mouza, C., & Barrett-Greenly, T. (2015). Bridging the app gap: An examination of a professional development initiative on mobile learning in urban schools. *Computers & Education*, *88*, 1-14.

Park, Y. (2011). A pedagogical framework for mobile learning: Categorizing educational applications of mobile technologies into four types. *The International Review of Research in Open and Distributed Learning*, *12*(2), 78-102.

Sharples, M. (2013). Mobile learning: research, practice and challenges. *Distance Education in China*, *3*(5), 5-11.

Saied, S. M., Elsabagh, H. M., & El-Afandy, A. M. (2017). Internet and Facebook addiction among Egyptian and Malaysian medical students: A comparative study, Tanta University, Egypt. *International Journal of Community Medicine and Public Health*, *3*(5), 1288-1297.

Schmitz, B., Klemke, R., & Specht, M. (2012). Effects of mobile gaming patterns on learning outcomes: a literature review. *International Journal of Technology Enhanced Learning*, *4*(5-6), 345-358.

Sharples, M., Taylor, J., & Vavoula, G. (2007). A theory of learning for the mobile age. In R. Andrews and C. Haythornthwaite (eds.), *The Sage Handbook of Elearning Research* (pp. 221-246). London: Sage.

Stahl, S. M., Davis, R. L., Kim, D. H., Lowe, N. G., Carlson, R. E., Fountain, K., & Grady, M. M. (2010). Play it again: The master psychopharmacology program as an example of interval learning in bite-sized portions. *CNS spectrums*, *15*(8), 491-504.

UNESCO (2012). UNESCO World Congress releases 2012 Paris OER Declaration. Retrieved on November 20, 2017 from http://www.unesco.org/new/en/communication-and-information/resources/news-and-in-focus-articles/all-news/news/unesco_world_oer_congress_releases_2012_paris_oer_declaration/

Vygotsky, L. (1978). *Mind in Society: The Development of Higher Psychological Processes*: Cambridge, Mass: Harvard University Press.

Wang, M., Shen, R., Novak, D., & Pan, X. (2009). The impact of mobile learning on students' learning behaviours and performance: Report from a large blended classroom. *British Journal of Educational Technology*, *40*(4), 673-695.

Yin, L. C. (2016). Adoption of WhatsApp instant messaging among students in Ipoh Higher Education Institutions. Retrieved on 14th April 2018 from http://woulibrary.wou.edu.my/theses-project/MED2016_CYLEE.pdf

Zaki, A. A., & Yunus, M. M. (2015). Potential of mobile learning in teaching of ESL academic writing. *English Language Teaching*, *8*(6), 11-19.

Zurita, G., & Nussbaum, M. (2007). A conceptual framework based on activity theory for mobile CSCL. *British Journal of Educational Technology*, *38*(2), 211-235.

HUMOR MARKERS IN COMPUTER MEDIATED COMMUNICATION: EMOTION PERCEPTION AND RESPONSE

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Abstract

This paper aimed at investigating humor in text-based computer mediated communication (CMC). To this end, 200 turns exchanged by a number of 50 English language teachers on Viber, a messaging application, were randomly selected and analyzed based on Adam's (2012) classification of humor to examine emoticons, punctuations (question mark, exclamation mark, and ellipsis), laughter (textual and acronym), formatting (spelling variations, capital/small letters, and elongation), and explicit markers in the corpus. The findings showed that emoticons outweighed other humor markers while laughter rated the least used marker in the corpus.

Keywords: Computer-Mediated Communication (CMC); emotion perception; humor; Viber; social networks

1. Introduction

Based on the manner, there are different forms of online interaction such as audio-based, video-based, and multimodal interactions (Hine, 2000). Obviously, in computer-mediated communication (henceforth, CMC), there are not as many sources of information as used in face-to-face communication since the communication is text-based. Although this is not a recent issue to investigate, CMC in the world of cyberspace has been of great significance in the era of technology in which interaction is growing fast day-by-day. According to Tudini and Liddicoat (2017), researchers used Conversation Analysis (henceforward, CA) methodology to examine the interaction patterns in CMC and its influence on language and learning. In other words, there has been a shift of topic in CA from studying naturally-occurred telephone and face-to-face conversations to study how communication is mediated by computers (Tudini & Liddicoat, 2017).

In fact, the community is one of the most important factors in cyberspace and especially social networks. A community is "a process that is fluid in nature" and evolves through

nurturing conditions; it is a supportive and empowering environment that is responsive to the members' actions, interactions, and reactions (Lock, 2007, p. 130). Currently, in the era of technology, a remarkable number of human-human interactions happen on the Internet, which gives evidence to the highly text-based nature of CMC. In fact, "interacting members of online groups constitute a speech community as they presumably share to some extent communicative practices, beliefs, and norms, since communication would be hindered otherwise" (Wilson & Peterson, 2002, p. 459).

As Hancock (2004) states, various linguistic features of CMC are the reflexes of those found in the spoken discourse which has led to fun interactions. Indeed, the lack of nonverbal cues is commonly compensated for by the use of emoticons, punctuations or formatting to convey the feeling of humor, as well as other feelings, more evidently. Therefore, the interpretation of feelings using markers may seem easier for the participants in interaction. Despite the fact that in the majority of face-to-face interactions humor is entirely conveyed between listeners and speakers, the spontaneous feedback is delayed in CMC (especially in asynchronous communications) or is even absent in some cases (Hancock, 2004). In contrast to the belief that humor is not well defined and presented in CMC, Hancock (2004) further claims that online communications are still "rife with humor, jocularity, irony, wordplay, puns, etc." (p. 57). For this purpose, the present study positions its research on how humor is exchanged in the CMC-based interactions of Iranian nonnative speakers of English in Viber. In the following sections, a review of CMC and humor in CMC is presented, followed by the methodology, results, discussion and conclusion of the study.

2. Review of literature

2.1. Computer-Mediated Communication

Originally, CMC examined how text-based messages are exchanged through the computer screen in different forms such as email, discussion forums, online chats, etc., whose linguistic properties differ depending the topics exchanged, the cultural contexts embedded and the people involved (Herring & Androutsopoulos, 2015). As an illustration, the lexical properties of CMC are called 'netspeak' (e.g. "DIY", "LOL"), and the socio-pragmatic conventions of CMC are referred to as 'netiquette'. Abbreviations and acronyms that belong to netspeak category are among the most common features used in CMC (Crystal, 2006; Doell, 2006). There are also other lexical features used in CMC quite often such as homophony where numbers or single letters substitute a syllable or morpheme (i.e. "b4" for before), letter

omission through which vowels are removed (e.g. “msg” for message), or clipping (i.e. “cer” for certainly). Besides, CMC contains spelling shifts where some words are replaced by others which are very different from the standard written English (e.g. “Becuz u r l8”). Colloquial language being inserted into CMC, contractions and spelling forms which stem in spoken language are often used in computer-mediated interactions (e.g. “wanna”, “donna”). According to Spitzberg (2006), a CMC user needs to have a specific skill in conveying suitable emotional information to his/her interlocutor. Hence, the speaker’s careful use of semantic language features as well as structural factors are of great importance in order to transfer the non-humorous intent in CMC. The skills and knowledge related to the issues of linguistic focus are pertinent to the relatively recent field of CMC.

There are two ways of interaction in online text-based communication; synchronous and asynchronous. As the names indicate, synchronous interaction refers to simultaneous participation of the people chatting, while in asynchronous CMC interaction is not synched up. Crystal (2006) best defines asynchronous CMC as a type of communication that “is stored in some format, and is made available to users upon demand so that they can catch up to or add to the discussion – even after an appreciable period has passed” (p. 12). Nevertheless, a synchronous text-based CMC is described in a way that “a user enters a chat room and joins an ongoing conversation in real time, sending named contributions which are inserted into a permanently scrolling screen along with the contributions of other participants” (Crystal, 2006, p. 12).

Clearly, the absence of contextual and non-verbal cues makes face-to-face interaction distinct from Computer-Mediated Communication, though it does not mean that CMC is not sufficient to express motifs such as emotional language as well as humorous functions (Daft & Lengel, 1986; Rice & Love, 1987). Although CMC was called “ill-suited” for social uses of language (Baron, 1984), it was later found that CMC facilitates social interactions in a way that communities grow through social processes.

The informal use of the language in CMC may occasionally be unsuitable; however, these features are utilized for the purpose of simplification, comfort, and speed in communication. Accordingly, Clark and Brennan (1991) best describe the process as ‘economy principle’, also known as ‘the least effort’, which refers to conversational language that contains optimum minimization without disturbing meaning. In fact, many of the CMC features can be explained by the same strategy such as deletion of subject pronouns or auxiliary verbs, which are common in face-to-face colloquial language. Although the two types of interaction share similarities, there are some minor variations. The rate of interaction in face-to-face

interaction is much faster than in CMC depending on the typing speed and the level of synchronicity (Hancock & Dunham, 2001). In an earlier study, Ko (1996) realized that language in CMC is oversimplified and includes a narrower range of vocabulary items, shorter phrases, and shorter utterances than colloquial interactions.

2.2. Humor in CMC

Hay (2001) defined humor as anything that an interlocutor produces to be perceived funny to the listeners, where context, nonverbal cues, and listeners' feedback are pivotal components in making humorous interaction effective. Obviously, humor occurs among all groups of people to a different extent. Indeed, it brings about more solidarity, sociability, and mutual support among group members for better teamwork, more innovations and creativity and causes finding better solution to problems (Romero & Cruthirds, 2006). Similarly, Wilson and Peterson (2002) found that "interacting members of online groups constitute a speech community as they presumably share to some extent communicative practices, beliefs, and norms, since communication would be hindered otherwise" (p. 459). In fact, humor is the "successful exchange of joking and laughter" (Kuipers, 2006, p.7), without which the function of funny messages is left unspecified. Veale (2004) maintains that this information added to the statement gives the recipients a chance to conceive several different interpretations of the message, to select their preferred explanation and to enjoy maximum amusement. This process highly depends on the context. The explanation, in fact, differs among individuals since each individual has his/her own perceptions, experiences, and expectations. Davies (2010) put it best by proposing that jokes with similar themes have various conceptions in different countries since the amusement of a joke is determined through the context in which it is delivered.

On the other hand, Attardo (2009) maintained that laughter is not the only way of identifying humor. Moreover, through different studies, Gunther (2003) and Vettin and Todt (2004) stated that it is insufficient to believe so since the response to humor might not be necessarily laughter. Similarly, there are many research studies that have considered conversational humor from corpora for naturally occurred humorous interactions (Archakis & Tsakona, 2005; Bell, 2009; Eisterhold, Attardo, & Boxer, 2006; Günther, 2003; Hancock, 2004; Holmes, 2006; Holmes & Marra, 2002; Hübler & Bell, 2003; Partington, 2006; Whalen, Pexman & Gill, 2009; Wimer & Beins, 2008), some of which are presented below.

In 2009, Whalen et al. studied the forms of non-literal language in asynchronous CMC as well as their frequencies. Through the research, they realized that over 94% of the participants applied one example of figurative language, the average of which was 2.9

statements per turns. They further concluded that jocularity in the CMC world is of low frequency. In a similar vein, in case of irony in CMC, Hancock (2004) found that the samples used ironically in face-to-face communication are more numerous than those in CMC. This difference perhaps lies in less frequent occurrences of humorous interactions because these forms are not easily recognizable by CMC users.

In another study, Hübler and Bell (2003) aimed at investigating constitutive laughter, which they define as the "interactions of co-constructed humor ranging across several turns, between both/multiple interlocutors, and identified by confirming laughter" (p. 280). According to the findings of the study, the authors concluded that laughter in CMC does not just include a simple "ha ha", but "cyber laugh" is often implied through textual elements used for confirmation or appreciation of the humor (i.e. "that was great") also by means of abbreviations showing the response to humor (i.e. "LOL", "ROFL").

In another study, Wimer and Beins (2008) asserted that humor ratings can be affected by previous messages, while the degree of simplicity in the messages is bound to limitations. Furthermore, their findings revealed that expectancy (in response) might influence the experience of humor so that humor is not solely derived from jocular content.

Despite the importance of text-based CMC in conveying humorous intention, there are still not enough studies in this field in the Iranian context. In recent years, few studies have paid attention to the importance of humor as a material in teaching and learning English in Iran (e.g., Baleghizadeh & Ghoreishi, 2014; Ghanei, Motallebzade & Fatemi, 2014; Rafiee, Kassaian & Vahid Dastjerdi, 2010), neither of which examined the humor in CMC. Therefore, the purpose of this study was to investigate the type and use of humor markers in the conversation turns exchanged in Viber as a medium of CMC in English by Iranian native speakers of Persian. Thus, the paper seeks to answer to the following research question: What types of humor markers are used in the conversation turns exchanged in English by Iranian nonnative speakers of English?

3. Methodology

3.1. Corpus

As the focus of this study is to explore humor in asynchronous interactions, the prevalent online software was used in groups which mostly share contextual and associational information about a particular subject, where humorous points are considered a suitable way of interaction among members. The participants of the present study were 120 young undergraduate and graduate

university students (66 women and 54 men aged 19 to 40) enrolled in different majors. They belonged to four different groups. As quite a natural setting, the participants were not given any information on the study. The sample was comprised of young (M age=30), single and married, and all Iranian subjects. All participants had access to web-based texting applications and were able to deal with online programs.

3.2. Procedure

To attain the purpose of the study, the data including asynchronous text-based CMC interactions from one of the most popular computer software programs and mobile phone applications i.e. Viber was used. This free and publicly accessible program seems reliable and suitable for group activities. Although there is no membership needed, each group member followed the ethical issues during chatting. The first 100 turns of interactions were collected with no changes, modifications, or corrections made. In case the interaction took more than 100 turns, but was linked to the past interactions, the rest of them were used for the data set. Totally, the data includes approximately 20000 words and 500 turns.

3.3. Data analysis

The data were collected via Viber. Having finished the coding for humor markers (see Table 1), data underwent analysis to investigate whether different forms of humor are effective on the frequency and form of markers and how the presence or absence of various markers affects humorous responses. Through an in-depth categorization of markers, all humor forms in any single turn being considered humorous were coded separately. To avoid misleading information, the units of humor were coded rather than full sentences or entire turns. The frequency of each category was then calculated as well as the responses to the humorous units via the Chi-square test.

Moreover, for the analysis of the responses, any humorous unit was coded as either getting or not getting a response. Therefore, the form of response was not part of this study, but the frequency was the main focus. Generally, descriptive inferential statistics was applied for both procedures in the study. The corpus was coded with the coding scheme developed by Adams (2012). Two raters, who were completely unaware of the research questions and the participants of the study, were asked to code all the markers. To make sure the coding system was proper, reliability was assessed by having a third independent rater check and score a randomly chosen sample of the data (15% of the total data). The reliability was then calculated

(Cohen's κ = .81). Table 1 depicts the model adopted in this study which was previously applied by Adams (2012).

Table 1. The contextual factors by Adams (2012)

Category	Definition	Examples
Emoticon	Graphic Textual	☺ o.O
Punctuation	Exclamation mark Quotation mark Ellipsis	"I will burry you!!!!!" "I can`t believe what you said" "I`m waiting…"
Laughter	Textual Acronym	"Heh" "rotfl", "lol"
Formatting	Spelling variation Capital/small letters Elongation	"naowyergunna get it!" "WHAT ARE YOU WAITING FOR?" "I can`t belieeeeeeeve you!"
Explicit	Meta-awareness of humorous intent	"Wow" (where conveys sarcastic intent)

As Table 1 demonstrates, the contextual factors adopted from Adams (2012) were categorized in five classifications of emoticons, punctuation (exclamation mark, quotation mark, and ellipsis), laughter (textual and acronym), formatting (spelling variations, capital/small letters, and elongation), and explicit markers. For the emoticons, there are two forms of textual (e.g. :-*), and graphic (e.g. ☺). The instances below are taken from the corpus in order to demonstrate how the data was collected. Since the names are not mentioned and the examples mentioned here are chosen randomly, they are ordered alphabetically.

User A: Are you sure this is your score? o.O

User B: :D guess so!

The second group of punctuation involves the exclamation mark, quotation mark, and ellipsis. Regardless of the number of exclamation marks in the utterances, at the end of each statement they are counted as one occurrence.

User C: God, you must be someone else!!!!!

User D: Sounds like a miracle!

User E: Him!!! Nice joke!

(A and B were counted as one marker; while C as two)

Quotation marks in their real use of quoted speech were not considered in the present study.

User D: "Physician", please set an appointment for us…

Similar to exclamation marks, ellipses of two or more periods in a row were counted as one occurrence.

User E: I am as hungry as a…

User F: Unbelievable..

The laughter category contains all types of laughter related to CMC (not including emoticons which belong to the first category). Accordingly, the textual form of laughter or the acronym form are two very common examples.

User G: Huh! I think I'll fail this course…

User H: Haaahaaahaaa..

User I: Lol, this is the end (laughing out loudly)

User J: Rotfl (rolling on the floor laughing)

The formatting classification deals with the information in the text which bears prosodic or emphatic meaning such as stress or increase in volume. The category mainly includes:

A. Caps lock; User K: TALKING OF THE DEVIL! she IS here

B. Elongation; User L: You are weeeeeelcome…

C. Alteration of spelling; User M: Litelwabbit!

(Capitalization does not count much in Persian because of the alphabets features.)

The last group is explicit markers which conveyed words or phrases that convey meta-awareness of humorous intention

A. By the speaker; User N: just a joke!

(Can also include sarcasm:

User O: Look! Who`s talking about discipline!!!

B. Or as a response; User P: can`t be serious…

This is the one and only category that cannot be considered outside humorous texts and messages. Notably, the markers may overlap and each of them was counted as one, regardless of overlap. For instance, this example is elongated, capitalized, with the use of exclamation mark:

User Q: NOOOOO WaaaaaY!!!!

For the response, there have been four categories chosen by Adams (2012), where each humorous message may carry one of the following responses:

1) laughter (Textual or acronym form),
2) amusement conveyed through emoticons,
3) explicit confirmation of humor appreciation or conveying recognition appreciation,
4) a continuation of humor based on the previous humorous message.

To identify humorous intent of the speakers and the response to interlocutors, all tokens were coded according to one of the five categories above. As the purpose of this study is to find the occurrence of humorous messages, non-humorous messages were also taken into account.

3.4. Results

The study aimed to investigate the frequency of the humorous types in interactions between the members of the four English-speaking Iranian groups using Viber. The quantitative analysis assessed whether or not the frequency of categories differed significantly. Table 2 demonstrated the frequency of occurrences of the humorous categories.

Table 2. The frequency of occurrences of the humor categories

Total Data		
Category	**No.**	**Percentage**
Emoticon	238	50.10
Punctuation	83	17.50
Laughter	30	6.30
Formatting	28	5.90
Explicit	96	20.20
Total	**475**	**100**

As Table 2 depicts, the first column reveals the number of occurrences for each category of humorous marker and the second one shows the relative frequency of the markers out of the total number of markers occurred in the corpora. The third and fourth columns represent the mean and standard deviation of the number of marker occurrences per turn.

The whole data set included a total number of 100 turns and 475 humor markers. Among the five categories of humorous types, emoticons carry the highest number and frequency of occurrence, involving 50% (N=238) of all the markers in the corpora. The second most frequent marker is the explicit one, including 20% (N=96) of the markers. In addition, punctuation was the third most-frequently used marker, which was very close to explicit markers in case of frequency of occurrence, 17% (N=83). On the other hand, the two last markers which had a significantly lower number of occurrences were formatting and laughter rating 5.8 (N=28) and 6.3 (N=30) respectively. The second phase of the analysis included investigation of humorous turns vs. non-humorous ones to consider how differently had have occurred. Table 3 demonstrates the frequency of occurrences of the non-humorous interactions.

Table 3. The frequency of occurrences of the non-humorous categories

Total Data		
Category	No.	Percentage
Emoticon	89	67.95
Punctuation	23	17.55

Laughter	9	6.90
Formatting	10	7.60
Explicit	0	0
Total	131	100

Since the explicit markers can only occur in humorous interactions, it should be noted that they are not considered in the non-humorous category. The four remaining categories underwent inferential statistics to investigate their frequency of occurrences as well. The sum of non-humorous occurrences was 131, which is significantly different from the total humorous occurrences. It is quite interesting to note that similar to humorous tokens, in non-humorous corpora emoticons rated the highest percentage of 67% (N=89). As Table 3 indicates, punctuation is the second frequent non-humorous category with 17% (N=23) of occurrence. Accordingly, laughter and formatting rate very similar as well with 6.8% (N=9) and 7.6% (N=10) respectively.

4. Discussion

In reference to the research question, the findings of the current study indicate that when participants are exposed to humor in CMC interactions, an individual's perception of the emotion is quite relevant to responsiveness. The frequency of humor markers and measures of emotion perception were obtained during data collection along with the responses to the humorous stimuli. Except for the explicit markers, which were absent in non-humorous responses, the four categories of punctuation, formatting, emoticon, and laughter were deployed significantly higher in humorous interactions by the users. The findings were in line with the findings of Adams (2012), who found the five categories in humorous conversations overweighed their non-humorous counterparts. This supports the Channel Expansion Theory (refer to Carlson & Zmud, 1994) indicating that mediated communication continually evolves and creates new ways of conveying required elements for successful interpersonal communication.

Humor is one of the main sources of solidarity and intimacy among social group members. The members are brought together by social trends and current phenomena. Indeed, humor can make the interactions more enjoyable and attractive. The social bonds can increase in this way so that misunderstandings and miscommunications do not harm the relationships. As the literature reveals, utilizing humor in social interactions facilitates the relationship among different people (Martin, 2010; Samson & Gross, 2012; Kuiper, 2012).

Humor is regarded as the socio-cultural manifestation of the society, which can indicate how the members of the society convey themselves. In fact, the subject matter differs in various cultures since the community's or nation's norms define what is considered humorous vs. serious. That might be the reason why many foreign language learners who are not familiar with the culture of the language they know find it difficult to understand or realize the jokes of the target language. Therefore, watching a comedy or reading a comic book might not help language learners understand the details and might not be so pleasant and funny as well. However, while exposed to humorous materials in language learning, the details of the pertinent cultural jokes, and familiarity with the actual exchange of jokes can assist learners to completely realize the reality and joke. As DiDomenico (2015) maintains, "The nuances of humor use complicate the assessment of humor's impact on relational quality" (p. 4).

Based on the findings of this study, emoticons were most frequently used marker in CMC interactions (50%), whereas in the study of Eisterhold et al. (2006) laughter was found as the most commonly used marker. In addition, according to Hancock (2004), the highest frequency was related to punctuation where exclamation marks and ellipses rated the most among other markers. Derks, Bos, and Grumbkow (2007) and DiDomenico (2015) also asserted that emoticons, i.e., smiling and laughing, are more often used in informal communication. Accordingly, Dresner and Herring (2010) believe that emoticons are more often used "perhaps because of their resemblance to whimsical line drawings, emoticons have expressive, playful, and informal connotations" (p.13). Conversely, the use of emoticons in the present study greatly differs from that of Hancock since in the latter the least frequent of all markers were around 1% of the whole humorous markers, while it ranks the first marker in this study involving 50% of all the markers. In this regard, Hancock (2004) asserted that emoticons are not efficient enough to convey humorous intent. However, the greater use of emoticons in the current study revealed that the users find it very effective to convey their intentions. In addition, users' demographics and situational factors, discussion topics, and communication settings have an impact on the use of emoticon (Herring, 2007). Therefore, the distinction into the use of emoticons can also mention the differences in cultures and norms of the societies.

Tamblyn (2003) believes that the real humor is openness, optimism and a kind of yes-saying to life. Humor is creativity and a have-all play. More importantly, humor occurs in particular situations or moments and due to variations in social interactions there might be incidental or spontaneous culture-specific humor. The humor that arises naturally encourages people in their relationships as well as provides intimacy rather than splitting them into different social, racial, religious, and sexual groups. The use of humor in fact can be enjoyable

for all members of the society if they keep values of one another. In other words, humor is "an integral part of culture and that can be a major conceptual and methodological tool for gaining insights into cultural system" (Apte, 1985; cited in Souhaila, 2012, p. 86). However, some studies, such as Hall (2013), found that the use of destructive or maladaptive humor has less impact on building relationships. Since language is the inseparable part of culture, the significance of both lies in their integrity.

The ability to realize and use humor in an EFL classroom can be of great importance so that the learner can tell jokes, improve storytelling, enhance listening skills, and totally accomplish his/her language skills in the second/foreign language. According to Powell and Andresen (1985), "humor, provided it is not used to excess, can increase attention and interest and help to illustrate and reinforce what is being taught (p.79)". Moreover, another study by Saltman (1995) indicated that positive humor relevant to the material being taught could foster learning, release stress, provide retention of information, improve cohesion, and remove learning barriers such as affective filter in ESL/EFL context.

5. Conclusion

The present study aimed at assessing humorous markers in Computer-Mediated Communication through which humorous intents of the participants were analyzed to see how they statistically correlated with humor production and to demonstrate the role of humor in CMC. A great deal of markers were used by participants which revealed that the five categories of humor markers (emoticon, laughter, explicit, formatting, punctuation) prove to be effective at conveying their humorous intentions. Finally, it can be inferred from the findings of this study that CMC can be a successful medium for delivering humorous intents among different users of social media. This last point can lead to a significant direction for future research into humor's impact on gender differences or vice versa, various humor strategies between siblings, friends, relatives, or effects of humor on building romantic relationships. The function of humor categories in the context of communication, an analysis on the speech act theory and illocutionary force, or even a longitudinal study on the different five categories mentioned in this study can shed more light on the issue under investigation.

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References

Adams, A. (2012). *Humor Markers in Computer-Mediated Communication*. Master's Thesis. Texas A&M University-Commerce.

Archakis, A., & Tsakona, V. (2005). Analyzing conversational data in GTVH terms: A new approach to the issue of identity construction via humor. *Humor: International Journal of Humor Research, 18*(1), 41-68. DOI:10.1515/humr.2005.18.1.41

Apte, M. L. (1985). *Humor and Laughter: An Anthropological Approach*. Ithaca, N.Y.: Cornell University Press.

Attardo, S. (2009). *Linguistic Theories of Humor*. Berlin: De Gruyter Mouton. DOI:10.1515/9783110219029

Baleghizadeh, S. & Ghoreishi, A. (2014). An evaluation of the use of humor in ELT coursebooks. *International Journal of Languages and Literatures*, *2*(2), 187-201.

Baron, N. S. (1984). Computer mediated communication as a force in language change. *Visible Language*, *18*(2), 118-141.

Bell, N. D. (2009). Responses to failed humor. *Journal of Pragmatics*, *41*(9), 1825-1836. DOI:10.1016/j.pragma.2008.10.010

Carlson, J. R., & Zmud, R. W. (1994). Channel expansion theory: A dynamic view of medial and information richness perceptions. *Academy of Management Proceedings*, *1*, 280-284. doi:10.5465/ambpp.1994.10344817

Clark, H. H., & Brennan, S. E. (1991.). Grounding in communication. In L. B.Resnick, J. M. Levine & S. D. Teasley (Eds.), *Perspectives on Socially Shared Cognition* (pp. 127-149). Washington, D.C.: American Psychological Association.

Crystal, D. (2006). *Language and the Internet*. Cambridge: Cambridge University Press.

Daft, R. L., &Lengel, R. H. (1986). Organizational information requirements, media richness and structural design. *Management Science, 32*(5), 554-571. DOI:10.1287/mnsc.32.5.554

Davies, C. (2010). Jokes as the truth about Soviet socialism. *Folklore, 46*, 9-32. DOI:10.7592/fejf2010.46.davies

Derks, D., Bos, A. E. R., & Grumbkow, J. von (2007). Emoticons and social interaction on the Internet: the importance of social context. *Computers in Human Behavior, 23*(1), 842-849. DOI:10.1016/j.chb.2004.11.013

DiDomenico, S. R. (2015). Humor. *The International Encyclopedia of Interpersonal Communication*, 1-6. Doi:10.1002/9781118540190.wbeic056

Doell, W. (2006). *Creation and Analysis of a Corpus of Internet Relay Chat.* Ottawa: National Library of Canada.

Dresner, E., & Herring, S. C. (2010). Functions of the non-verbal in CMC: Emoticons and illocutionary force. *Communication Theory*, *20*, 249-268.

Eisterhold, J., Attardo, S., & Boxer, D. (2006). Reactions to irony in discourse: evidence for the least disruption principle. *Journal of Pragmatics, 38*(8), 1239-1256. doi:10.1016/j.pragma.2004.12.003

GhaneiMolagh, F., Motallebzade, K. & Fatemi, M. A. (2014). On the effects of teacher's sense of humor on Iranian's EFL learners' reading comprehension ability. *International Journal of Applied Linguistics and English Literature, 3*(4), 1-5. DOI:10.7575/aiac.ijalel.v.3n.4p.1

Günther, U. (2003). *What's in a Laugh? Humor, Jokes and Laughter in the Conversational Corpus of the BNC.* Freiburg: Albert-Ludwigs-Universität.

Hall, J. A. (2013). Humor in long-term romantic relationships: The association of general humor styles and relationship-specific functions with relationship satisfaction. *Western Journal of Communication*, *77*(3), 272-292. DOI:10.1080/10570314.2012.757796

Hancock, J. T. (2004). Verbal irony use in face-to-face and computer-mediated conversations. *Journal of Language and Social Psychology*, *23*(4), 447-463. DOI:10.1177/0261927x04269587

Hancock, J. T., & Duhnham, P. J. (2001). Impression formation in Computer-Mediated Communication revisited. *Communication Research*, *28*(3), 325-347. DOI:10.1177/009365001028003004

Hay, J. (2001). The pragmatics of humor support. *Humor: International Journal of Humor Research*, *14*(1), 55-82. DOI:10.1515/humr.14.1.55

Herring, S. C. (2007). A faceted classification scheme for computer-mediated discourse. *Language@ internet*, *4*(1), 1-37.

Herring, S. C. & Androutsopoulo, J. (2015). Computer-mediated discourse. In D. Tannen, D. Schiffrin, and H. Hamilton (eds.), *The Handbook of Discourse Analysis* (pp. 127-151) Oxford: Blackwell.

Hine, C. (2000). *Virtual Ethnography*. London: Sage Research Method. DOI:10.4135/9780857020277

Holmes, J. (2006). Sharing a laugh: Pragmatic aspects of humor and gender in the workplace. *Journal of Pragmatics*, *38*(1), 26-50. DOI:10.1016/j.pragma.2005.06.007

Holmes, J., & Marra, M. (2002). Having a laugh at work. *Journal of Pragmatics*, *34*(12), 1683-1710. DOI:10.1016/s0378-2166(02)00032-2

Hübler, M. T., & Bell, D. C. (2003). Computer-mediated humor and ethos: Exploring threads of constitutive laughter in online communities. *Computers and Composition*, *20*(3), 277-294. DOI:10.1016/s8755-4615(03)00036-7

Ko, K. (1996). Structural characteristics of computer-dediated language: A comparative analysis of InterChange discourse. *Electronic Journal of Communication*, *6*(3). Retrieved online from: http://www.cios.org/EJCPUBLIC/006/3/006315.HTML.

Kuipers, G. (2006). The social construction of digital danger: debating, defusing and inflating the moral dangers of online humor and pornography in the Netherlands and the United States. *New Media & Society*, *8*(3), 379-400. DOI:10.1177/1461444806061949

Kuiper, N. A. (2012). Humor and resiliency: Towards a process model of coping and growth. *Europe's Journal of Psychology*, *8*(3), 475-491. DOI:10.5964/ejop.v8i3.464

Lock, J. V. (2007). Laying the groundwork for the development of learning communities within online courses. In R. Luppicini (Ed.) *Online Learning Communities* (pp. 129-149). Charlotte: Information Age Publishing Inc.

Martin, R. A. (2010). *The Psychology of Humor: An Integrative Approach*. London: Elsevier Academic Press.

Partington, A. (2006). *The Linguistics of Laughter: A Corpus-Assisted Study of Laughter-Talk*. London & New York: Routledge.

Powell, J. P., & Andresen, L. W. (1985). Humor and teaching in higher education. *Studies in Higher Education*, *10*(1), 79-90. DOI:10.1080/03075078512331378726

Rafiee, M., Kassaian, Z. & VahidDastjerdi, H. (2010). The application of humorous song in EFL classrooms and its effects on listening comprehension. *English Language Teaching*, *3*(4), 100-108.

Rice, R. E., & Love, G. (1987). Electronic emotion: Socioemotional content in computer-mediated communication network. *Communication Research*, *14*(1), 85-108. DOI:10.1177/009365087014001005

Romero, E. J., & Cruthirds, K. W. (2006). The use of humor in the workplace. *Academy of Management Perspectives*, *20*(2), 58-69. DOI:10.5465/amp.2006.20591005

Saltman, J. M. (1995). *Humor in Adult Learning: A Review of Perceptions.* New York: Teachers College, Columbia University.

Samson, A. C., & Gross, J. J. (2012). Humor as emotion regulation: The differential consequences of negative versus positive humor. *Cognition & Emotion*, *26*(2), 375-384. DOI:10.1080/02699931.2011.585069

Souhaila, H. (2012). Humour in English foreign language teaching. *Langues, Culture et Littérature*, *31*, 79-88.

Spitzberg, B. H. (2006). Preliminary development of a model and measure of Computer-Mediated Communication (CMC) competence. *Journal of Computer-Mediated Communication*, *11*(2), 629-666. DOI:10.1111/j.1083-6101.2006.00030.x

Tamblyn, D. (2003). *Laugh and Learn: 95 Ways to Use Humor for More Effective Teaching and Training*. New York: Amacom.

Tudini V., Liddicoat A.J. (2017) Computer-Mediated Communication and Conversation Analysis. In S. Thorne, S. May (eds.), *Language, Education and Technology. Encyclopedia of Language and Education (3rd ed.)* (pp. 415-426). Cham: Springer.

Veale, T. (2004). Incongruity in humor: Root cause or epiphenomenon? *Humor: International Journal of Humor Research, 17*(4). 419-128. DOI:10.1515/humr.2004.17.4.419

Vettin, J., & Todt, D. (2004). Laughter in conversation: Features of occurrence and acoustic structure. *Journal of Nonverbal Behavior*, *28*(2), 93-115. DOI:10.1023/b:jonb.0000023654.73558.72

Whalen, J. M., Pexman, P. M., & Gill, A. J. (2009). "Should be fun – Not!" *Journal of Language and Social Psychology*, *28*(3), 263-280. DOI:10.1177/0261927x09335253

Wilson, S. M., & Peterson, L. C. (2002). The anthropology of online communities. *Annual Review of Anthropology*, *31*, 449-467. DOI:10.1146/annurev.anthro.31.040402.085436

Wimer, D. J., & Beins, B. C. (2008). Expectations and perceived humor. *Humor: International Journal of Humor Research, 21*(3), 347-363. DOI:10.1515/humor.2008.016

THE EFFECT OF FLIPPED CLASSROOM INSTRUCTION IN WRITING: A CASE STUDY WITH IRAQI EFL LEARNERS

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Abstract

The purpose of this study is to examine the effect of Flipped Classroom Instruction (FCI) on Iraqi EFL learners' writing skills. Participants included 66 students in the College of Languages English Department at Salahaddin University. The study employed a mixed method of data collection, utilizing pre-and post-writing tests as well as a questionnaire for both groups and interviews conducted with the experimental group. Findings indicated that a statistically significant difference existed between the control and experimental groups and, more specifically, the students of the experimental group performed better on the writing tests than the students of the control group. The majority of the learners' attitudes towards FCI were positive.

Keywords: Flipped Classroom Instruction; English as a foreign language; traditional instruction; writing skills

1. Introduction

During the 21st century, education has proven a topic of great interest among scholars. Every year numerous studies are being conducted for the sake of improving education and pedagogy (Glewwe & Muralidharan, 2015). Especially owing to new developments in technology, pedagogies necessarily must adapt to meet the changing needs of students and differing classroom expectations. Compared with those of the past, the aims and objectives of current teaching practice have also transformed. Nowadays, students are able to provide more input into their learning by participating in interactive, real-world learning situations rather than remaining inactive listeners. Consequently, to continue addressing the needs of students of different learning styles, teachers should consider updating their teaching approaches in order to enable a supportive and creative learning environment for their students.

Like other language skills, writing is vital for success in most careers and disciplines today, so learners are expected to improve their writing skills. It is generally agreed that writing is a difficult skill for English as a foreign language (EFL) students to acquire. According to Nunan (1999), it is difficult even for native speakers to fully master writing due to issues in

cohesion and structure. Alsamdani (2010) has also stated that "writing is a challenging process as it involves various skills of thesis statement, writing supporting details, reviewing and editing" (p. 55). According to Abu-Rass (2001), to produce a decent writing piece, the writer should be aware of various aspects such as arrangement, aim, content, audience, lexis, mechanism, punctuation, spelling, and paragraphing. Supporting learners in developing their writing skills nevertheless remains challenging for instructors; however, the use of technology might assist these teachers in successfully developing these skills. According to a study conducted by Ayoub (2006), most errors made by Iraqi EFL writing learners were due to teaching methods and other factors such as limited class time, disinterest, and demotivation on the part of students.

Considering the above, Flipped Classroom Instruction (FCI) seems a viable means for overcoming the writing difficulties experienced by EFL students in Iraq, as it can provide an enriched learning environment enabling these learners' autonomy and increasing their motivation. According to Brown (2007), a classroom is not the only place for students to learn something; rather, he believes that learning can take place outside of learning settings in environments which enable learner-centeredness and the achievement of learning outcomes. In order to create such an environment, some researchers advocate FCI (Bergmann & Sams, 2012; Burns, 2013; Weimer, 2013). This study focuses on demonstrating the potential influences of FCI on Iraqi EFL learners' writing skills.

2. Literature review

FCI is a method involving group instruction in an active, cooperative, and collaborative setting. The instructor guides learners as they practice their theories and involve themselves more effectively in class content (Sams, Bergmann, Daniels, Bennett, Marshall, & Arfstrom, 2014; Pearson & The Flipped Learning Network, 2013). According to Hamdan, McKnight, McKnight, and Arfstrom (2013), it is a learning approach in which "teachers shift direct learning out of the large group learning space and move it to the individual learning space" and "devote more time to opportunities for integrating and applying [student] knowledge, via a variety of student-centered, active learning strategies" (p. 1). FCI involves increasing class length in order for additional practice and activities to be implemented rather than concentrating on language theories. In this way, learners develop an increased ability to produce and learn. In contrast, traditional classroom instruction – which is necessarily teacher-centered – limits students to theoretical instruction during a shorter time-frame, and students must complete related assignments outside of class time. This may, in turn, discourage learners

from completing the intended practice and, thus, result in incomplete understanding of class material. Meanwhile, FCI has the possibility of permitting differentiated instruction as it changes the teaching and learning experience. Learning becomes more individualized and personalized through FCI. As a consequence, learners are more involved and motivated to learn, and they develop the autonomy to steer their learning in a positive direction. This pedagogical change enables learners to guide their own learning by relying on their mental ability, motivation, and interests (Bergmann & Sams, 2014). The aim of FCI is to encourage the use of higher-order reasoning by learners. Bloom's taxonomy (Bloom, 1965) drives FCI, as learners are involved both in lower-order (recollection, comprehension, and implementation) and higher-order reasoning (analysis, measurement, construction). The presentation of subject matter involves lower-order reasoning including basic facts and opinions, which are directed toward higher-order reasoning in the form of hypotheses and assigned work. Traditional delivery classes in which the instructor stands and presents the content regularly offer lower-order reasoning opportunities but neglect higher-order reasoning. On the other hand, in a solitary environment, learners have ample opportunity to produce and challenge new ideas (Cuban, 1983).

The main conceptual features of FCI can be summarized as technology use by instructors, shifting learning into society, and replacing face-to-face-instruction in a large group setting to more solitary learning environments (Pearson, 2013). In this way, FCI works cooperatively with Communicative Language Teaching (CLT) approaches, which focus on learning-by-doing, as well as task-based language teaching (TBLT) methods in which students answer assignments depending on their varied capacities. Both FCI and CLT also increase students' engagement in physical and cognitive forms with the subject matter (Butt, 2014). Beyond the boundaries of the classroom, learners can access the subject matter in the form of instructional videos, reading assignments, discussion, and small quizzes. In the classroom, learners continue to interact with the subject matter through application and practice in the form of small and large discussion groups using analytical writing, research, task-based problem solving, and scheme creation. According to Brooks and Brooks (1993), the constructivist framework requires instructors to trigger a learning atmosphere in which learner autonomy is fostered. In this situation, content-related activities are created around the use of data and essential resources, students must think critically, and open dialogue is increased among students as well as with the instructor. Kaufman (2003) specifies that teachers' role is not only to transmit but also to guide, as they design lessons to engage students in knowledge construction through learning activities. This builds on Vygotsky's premise that knowledge is

not directly "taught" to students but rather "discovered" by them though active participation in discussions and research along with guidance from teachers (Karpov, 2003). This means that learning can be well-achieved by exploring and experiencing content under the guidance of the teacher. A collaborative environment in which students are encouraged to critically analyze resources while gaining knowledge through self-discovery and instructor guidance is the backbone of the in-class portion of FCI.

Over the past few years, FCI has increased in use and widened its reach to different subjects, mostly within higher education. Nevertheless, few studies have examined the use of this teaching approach on sophomore learners' writing performance. In a study conducted by Mireille (2014) which examined the influences of FCI on high-school Emirate female learners' essay performances and explored their opinions regarding FCI, the results indicated a statistically significant difference between the test scores of learners in the controlled class and learners in the experimental class. This enhancement of learners' writing abilities was attributed to FCI. Moreover, learners' beliefs towards FCI were positive.

Furthermore, Leis, Cooke, and Tohei (2015) compared two university-level English composition courses – one implementing FCI and the other utilizing traditional instruction. The findings revealed that FCI had resulted in increased production by students (i.e., number of hours studied and length of compositions) in comparison to the students of the traditional classroom.

Sung (2015) flipped an English content-based class comprised of twelve university students enrolled in an elective course. Prior to each class, the learners previewed lesson materials such as readings and videos and engaged in diverse online activities on a Learning Management System (LMS) platform. Then, they performed collaborative class activities such as sharing their thoughts on paper, discussing questions concerning weekly online readings, and completing the final project of designing an evaluation plan. The results of the analysis of both informal and formal course evaluations and student work demonstrated that they were positive with FCI despite early integration difficulties. The results also indicated that FCI is a good alternative for modification, at least in current English language teaching.

A study conducted by Mehring (2015) investigated the influence of FCI on EFL learners in a Japanese setting and focused on students' attitudes towards the changed teaching philosophy. Based on interviews conducted with the learners, there was an increase in self-directed learning and a decrease in absence and inactivity (i.e., hesitancy to initiate conversations and lack of self-confidence to question in classroom).

Adedoja (2016) investigated Nigerian pre-service teachers' attitudes towards the flipped instruction and the challenges they confront. The study used both traditional (face-to-face) instruction and flipped instruction by utilizing the questionnaire and Focus Group Discussion. The results revealed that the attitude of pre-service teachers was positively in favour of flipped instruction.

Another study conducted by Nouri (2016) investigated the Swedish learners' attitude towards flipped learning in research methods by administrating the questionnaire. The outcomes showed that a great number of the participants expressed a positive attitude towards flipped classroom due to increased motivation, engagement, increased and more effective learning.

Ekmekci (2017) conducted a study of FCI in a Turkish EFL context to explore its impact on students' foreign language writing skills. The study compared traditional and FCI writing classes based on the mean scores of students, and the findings indicated that a statistically significant difference existed between participants in the flipped classroom and those in the traditional delivery classroom in relation to their writing performances. This reveals that the participants in the experimental class performed better than the participants in the controlled class after applying the program. The findings of the study also indicated that many participants in the experimental group held positive beliefs toward FCI.

FCI has been explored in various fields of education from different points of views, including the attitudes of instructors and learners, implementation, advantages, and disadvantages. Several researchers have claimed that FCI is a beneficial method of instruction (Bergmann & Sams, 2012; Strayer, 2012; Mireille, 2014). Nevertheless, some researchers have viewed FCI as similar to traditional instruction in terms of learners' achievement and performance (Ford, Burns, Mitch, & Gomez, 2012; Zownorega, 2013). Technology has played a great role in developing education, but it has not been practically utilized in the 21st century by Iraqi educators for the purpose of creating a better learning environment among Iraqi EFL learners. This study attempts to illustrate the impact of a new approach on Iraqi EFL learners' outcomes at the level of higher education and learners' attitudes. It also serves as an infrastructure for developing an educational system that shifts the influence of learning among Iraqi EFL learners.

The main motivation for this study relates to the gap between practice and theory in an Iraqi educational setting as well as the ability to empower Iraqi educators to become change agents (Walie & Yahya, 2010). It is also hoped that this study will raise awareness concerning the necessity of adjusting educational methodologies in a highly technological environment, of

better preparing learners to write effectively within a restricted length of time, and of increasing learners' independence, motivation, and eagerness by addressing their various necessities.

The current study is guided by the following research questions:

1. Does FCI contribute to the development of EFL learners' writing skills?
2. Does a difference exist between the writing achievement of students who have received FCI and those who have been taught in a traditional way?
3. What are the views of Iraqi EFL learners regarding FCI?

3. Methodology

The research study employed a mixed method of quantitative and qualitative data collection. The reason for adopting a mixed method was to create the opportunity for discovering reasons that supported the impact of FCI on students' writing skills. According to Suter (2006), a mixed-method study possesses "great potential to influence ways of thinking about problems and practices in the teaching and learning process" (p.65). The quantitative analysis of the data was designed to permit the researcher to differentiate between the results of pre-and post-tests and to observe Iraqi EFL learners' attitudes towards FCI. Interviews conducted with students explored the influence of FCI more in-depth and recorded learners' insights regarding FCI. The study was quasi-experimental in nature. According to Creswell (2009), quasi-experimental research attempts to recognize the influence of a specific "treatment" or program on assigned learners. The type of quasi-experimental research employed in this study involved a non-equivalent control group, which means that a pre-test was administrated to both assigned groups to determine their writing abilities before the treatment and a post-test was administrated again after the treatment.

3.1. Participants

A total of 66 Iraqi sophomore students studying during the 2016-2017 academic year at Salahaddin University in northern Iraq participated in the current study. Table 1 below displays the demographic characteristics of both control and experimental group participants in terms of gender, mother tongue, and years of English study.

Table 1. Demographic characteristics of both assigned groups

Demographic characteristics of participants		**Control Group (n=32)**		**Experimental Group (n=34)**	
		F	**%**	**F**	**%**
Gender	Male	10	31	10	29

	Female	22	69	24	71
Mother tongue	Kurdish	24	75	30	85
	Arabic	7	22	3	12
	Turkish	1	3	1	3
How long they have been studying English?	1-2 years	23	72	21	62
	3-5 years	6	19	8	23
	> 5 years	3	9	5	15

As seen in Table 1, participants included 66 students who ranged in age from 20 to 22 years. All had willingly decided to participate in this study. They were native speakers of Kurdish, Arabic, and Turkish and had one year of experience studying English, their average level being between B1 (Intermediate English) and B2 (Upper-Intermediate). This study utilized convenience sampling, which is the most common type of sampling in L2 research and is usually employed when the characteristics of the participants are related to the purpose of the investigation (Dörnyei, 2007). There were three classes of participants, and only two sophomore writing classes were selected from Salahaddin University's College of Languages English Department to serve as the context for this study. One class was assigned as the control group, which contained a total of 32 learners (Group 1), while the other class was selected as the experimental group and included 34 students (Group 2). Both groups were taught by the same instructor who possessed four years of experience in teaching English writing and held an MA degree in TEFL, Applied Linguistics, and English Literature. Meanwhile, it was the researcher's responsibility (with the consultation of the instructor) to make the video materials and afterward upload them for students.

The control group students were instructed via "traditional" delivery in a class in which the instructor was the dominant speaker and did most of the speaking while the students played a more passive role as the receivers of the knowledge. In the control group, the teacher was the source of knowledge and input.

The experimental group students were instructed via FCI in which they were more active than the control group and tried to discover the knowledge on their own. They were more autonomous when compared to the control group students. They were expected to listen to the videos, understand the provided knowledge and then practice that knowledge in the classroom. Both groups were studying EFL and expected to advance to the next level of study (junior year). As for the interview, a total of ten participants (six males and four females) were included voluntarily, and these were also participants of the experimental group.

3.2. Data collection tools

Data were collected through the pre and post tests designed by the researchers, a questionnaire previously used by Mireille (2014) and semi-structured interviews.

Writing Pre- and post tests: A writing test used by the researcher to examine the influence of FCI on the writing skills of learners was created in agreement with the instructor and two other instructors based the on pre-selected textbook *4 Longman Academic Writing Series* by Alice Oshima and Ann Hogue. First, the students of both groups were asked to write a 100-200-word paragraph on the topic "The use of the Internet in education." The same pre-and post-tests were administered under timed conditions using pen and paper, and students were required to finish during class time. In order to evaluate and analyze the pre-and post-tests, the researcher adopted a rubric used by Paola (2011) based on the syllabus that both groups were being taught during the study. The rubric evaluated subjects' responses on five different levels: (1) topic sentence, (2) supporting details, (3) organization and transitions, (4) language use, and (5) mechanics. These features were the standards for scoring learners' writing abilities, and each of these features was marked on a scale valued from 0 to 2 points. To ensure the reliability and validity of the rubric, the researcher gave the same paragraph to four English teachers to score it based on the adopted rubric. Based on the evaluation of each teacher, the adopted rubric was proven to be reliable and valid for scoring the pre- and post-tests.

FCI Questionnaire: To investigate learners' attitudes towards FCI, a questionnaire previously used by Mireille (2014) was adopted after completion of the FCI program to gather data from the participants. The questionnaire contained two major sections: in the first segment of the questionnaire, the participants of the experimental group were asked to give demographic information while in the second segment they were asked to respond to ten items using a three-point Likert scale that ranges from "disagree" (1) to "agree" (3). The aim of the questionnaire was to gather data about Iraqi EFL students' opinions towards the FCI program. The questionnaire was employed to the experimental group at the end of the study.

Interviews: After completing the questionnaire, semi-structured interviews were conducted with 10 participants from the experimental group to gain deeper knowledge of their unique experiences and more input from the learners about their opinions of FCI. The interviews included four open-ended questions, and were all translated into the participants' mother tongue (Kurdish) because the volunteers were only Kurdish participants. They were interviewed individually during the class session, and interviews were recorded and transcribed for analysis. The interview questions were as follows:

1. What do you think about the use of the flipped classroom instruction?

2. Did the Flipped Instruction improve your ability to write in English or did it cause no improvement? Explain.
3. How do you describe yourself as a participant in the FCI?
4. What are the drawbacks of the Flipped Instruction?

3.3. Materials and procedure

The FCI program was implemented over an eight-week duration at the research site among 34 sophomore EFL students in writing classes. The objective of the FCI program was to teach students how to identify the parts of a paragraph, including an appropriate topic sentence, supporting sentences and a concluding sentence, more importantly the unity and coherence of the paragraph. The students were instructed and prepared for class by viewing the created videos through YouTube educational channels related to the current topic of study. All the prepared videos for this research study were uploaded to a closed Facebook Social Media Community in which only experimental participants were enrolled. During the class, rather than attending the lecture to listen, the participants were involved in activities provided in the book and participated in realistic applications such as group work and pair work in the presence of the instructor. Furthermore, the same teaching schedule, textbook, and content were used for both groups, who were taught by the same instructor. For experimental group students who had no internet connection, the instructional videos were available on flash drives and DVDs, which they could borrow in order to watch at home.

3.4. Data analysis

After receiving the completed pre-tests, the researcher and the instructor individually scored the students' responses based on the created rubric. When the difference between the two assessors was more than 3 points, another English instructor was asked to grade the same pre-tests to obtain an average score. Subsequently, the same process of evaluation was also conducted at the end of the treatment with completed post-tests. An independent-sample *t*-test was conducted to examine whether any statistically significant difference existed between the control and experimental groups' test scores.

The questionnaire was only employed to the experimental group at the end of the treatment to find out their attitudes towards FCI. The questionnaire items including Likert-type responses were analysed by calculating the percentages for each item.

According to Creswell and Plano Clark (2007), for the analysis of qualitative data, a five-process technique is required that involves "preparing the data for analysis, exploring the

data, analyzing the data, representing the data analysis, and validating the data" (p. 129). Once interviewees' responses were verified and confirmed, inductive content analysis was conducted for the classification of the data. In this type of analysis, "the general issues that are of interest are determined prior to the analysis, but the specific nature of the categories and themes to be explored are not predetermined" (Ezzy, 2002, p. 80). Subsequently, coding was executed. Ezzy (2002) defines this process as "disassembling and reassembling the data process" (p. 94), which means breaking the transcribed data into smaller items of text. After data was disassembled, emergent themes were identified and categorized. The qualitative data enabled the researcher to explore students' unique experiences in a more in-depth manner.

4. Findings

As stated earlier, the first research question probed the contribution of FCI to the development of EFL learners' writing skills. Hence, the mean, standard deviation, maximum and minimum scores were calculated to describe each group's scores.

4.1. FCI contribution to the development of EFL learners' writing skills

Table 2 gives descriptive statistics of the control and the experimental group in pre-and post-writing scores.

Table 2. Descriptive statistics for experimental and control groups

Groups		Mean	N	Minimum	Maximin	Std. Deviation
Experimental	Pre-test	4.35	34	2.0	8.0	1.85
	Post-test	6.17	34	3.0	9.0	1.72
Control	Pre-test	4.64	32	2.0	8.0	1.72
	Post-test	5.31	32	3.0	9.0	1.76

As seen in the table above, the students in the experimental group performed better on the post-test than the students in the control group. Examining the results more closely, it can be seen that there is a remarkable improvement in the mean test scores of students who had received FCI in comparison to the small-change results of students who had received traditional in-class instruction. For example, students in the experimental group had a mean average that increased from ($\bar{x}$ =4.35, N=34, SD=1.85 to $\bar{x}$ =6.17, N=34, SD=1.72), whereas the mean average of students in the control group only slightly increased from ($\bar{x}$ =4.64, N=32, SD=1.72 to $\bar{x}$ =5.31, N=32, SD=1.76).

4.2. The difference between FCI and traditional instruction among Iraqi EFL students

In order to identify differences in writing skills between the control group and the experimental group prior to the FCI treatment, an independent-sample *t*-test was conducted. The results are presented in Table 5 below.

Table 3. Difference between experimental and control groups before the FCI program

Groups	N	Mean	SD	t-value	P-value
Experimental	34	4.35	1.85	-.653	0.51
Control	32	4.64	1.72		

Table 3 shows that the scores of the pre-tests did not vary much before participants received FCI, which indicates that no statistically significant difference existed between the pre-tests of the experimental ($\bar{x}$ =4.35, N=34, SD=1.85) and control groups ($\bar{x}$ =4.64, N=32, SD=1.72) and (T=-.653, P=0.51). In other words, students in both groups exhibited similar writing abilities before the application of the study.

In order to examine the difference between both groups after the FCI treatment, an independent-sample *t*-test was employed, and the results are displayed in Table 6 below.

Table 4. Difference between experimental and control groups after FCI program

Groups	N	Mean	SD	t-value	P-value
Experimental	34	6.17	1.72	2.013	0.048
Control	32	5.31	1.76		

As demonstrated in Table 4, an independent-sample *t*-test revealed that at the end of the FCI program there was a significant difference between the mean scores of the experimental group ($\bar{x}$ =6.17, N=34, SD=1.72) and the control group ($\bar{x}$ =5.31, N=32, SD=1.76). This indicates that there existed a statistically significant difference between the two groups on the post-tests (T=2.013, P=0.048). In fact, the results of the post-tests indicate that the difference between the mean scores is largely attributable to FCI: the t-test helped to demonstrate that the post-test results of students in the experimental group (P<0.05) showed significant improvement.

4.3. Iraqi EFL learners' attitudes toward FCI

In order to identify the attitudes of Iraqi EFL pre-service teachers toward FCI, the frequency and percentage of item scores were calculated and the results are displayed below:

Table 5. **Learners' opinions of FCI according to the questionnaire**

N	Items	Disagree		Undecided		Agree	
		F	%	F	%	F	%
1	The flipped instruction allows me to prepare for my class in advance.	3	8.8	8	23.5	23	67.7
2	Through the prepared videos, I have enough time to acquire the sentence structures.	5	14.7	12	35.3	17	50
3	I feel more confident to ask for clarifications after watching the prepared videos.	5	14.7	8	23.5	21	61.8
4	I feel more confident about my learning due to flipped instruction.	15	44.1	1	2.9	18	52.9
5	Flipped instruction made it easier for me to answer and write the test.	10	29.4	15	44.1	9	26.4
6	My writing strategies are better as I have more time to apply the learning in class.	8	23.5	2	5.9	24	70.6
7	I feel I am more in charge of my learning through flipped instruction.	15	44.1	7	20.6	12	35.2
8	I feel that flipped instruction has not helped me at all.	18	52.9	8	23.5	8	23.5
9	I understand more when the teacher explains in class.	12	35.3	5	14.7	17	50
10	I like to write in class to get instant feedback from my teacher.	8	23.5	7	20.6	19	55.9

The findings in Table 5 are elaborated together with the findings gathered from the interviews and displayed in Table 6 below. Ten students from the experimental group were interviewed, and the themes and topics discovered when students were asked to explain their attitudes about the use of FCI are presented below:

Table 6. Students' views about the use of FCI

Questions	Themes	F
The use of the FCI	Providing more time for practising daily	4
	Providing easily accessible learning	8
	Being interesting, motivating	6
Improving students' writing abilities	Getting immediate feedback from teacher	5
	Improving more interaction between peers and teacher	5
	Increasing quality of teaching	3

Students describing themselves in class using Flipped Instruction	Active and engaged	6
	Motivated	4
	Self-independent	5
The drawbacks of FCI	Slow internet connection	7
	The quality of videos	6
	Social factors	3
	Unawareness of using technology	4

As demonstrated in Table 6, when responding to Item 1, about 68% of students believed that *FCI allowed them to prepare for their class in advance*. This finding is supported by some students (N=4), as seen in Table 3. One participant stated the following:

> "It makes me concentrate more, it makes learning easier and it saves time for study and practice." (S1)

As demonstrated in Table 6, in reference to Item 2, half of the students believed *that through the prepared videos, they had enough time to acquire the sentence structures*. This belief is supported by interview responses (N=8), as one participant explained:

> "It helps me to be prepared well before taking exams; I can watch the videos anytime and anywhere." (S10)

On Items 3 and 4, when students were asked about their *level of self-confidence*, almost 62% of the students believed that FCI had increased confidence, and approximately 53% expressed an increase in involvement in their learning. These findings are verified by the interview as well (N=6). Two of them claimed as follows:

> "I feel more focus on my learning and I feel responsible and active in my learning during the class time and at home." (S2)
>
> "I am trying more to participate and depend on myself to learn not even in classroom but also outside of classroom." (S6)

As shown in Table 6, when responding to Item 5, about 27% of students believed that *FCI made it easier to write the test*, while almost 30% of students disagreed. In reference to Item 6, almost 71% of students reported that *if they had more time to apply their learning in class, their writing strategies would be better.* As previously mentioned, FCI utilizes class time more for practicing real-world skills rather than focusing on the theoretical components of language. This finding proves that FCI even increases the quality of teaching for better learning through more practice, which is verified by three of the interview responses (N=3). One participant commented as follows:

"It can provide more information than traditional way, it is like a tutor for every student at home." (S9)

Item 7 is also noteworthy as it relates to *students' independence through FCI*. 44% of students did not believe that FCI made them more responsible for their learning. Only 32% of students believed this to be true. This phenomenon could possibly be related to the age of the learners, who were still in the process of developing maturity. In reference to Item 8, 53% of students rejected the view that *FCI had not helped them at all*, which means that more than half of students' writings had been improved due to FCI and, according to them, it was a useful method of teaching. Additionally, when responding to Item 9, which regarded the *awareness of learners' comprehension when the instructor gives an explanation in class*, 50% of students preferred the instructor to give an explanation in class despite whether or not they favored FCI on the other questionnaire items. A probable reason for this is associated with the Iraqi community and tradition in which students have always been taught with the presence of a teacher in class rather than via technology use, which is still new to the country. In reference to Item 10, almost 60% of students intended to *utilize class for writing to get direct corrections from their instructor*, while nearly 23% disagreed. This finding also verified the notion of FCI that advocates more time to improve interaction between teachers and students and among students as well. This finding is also supported by the participants in the interview (N=5). For instance, two participants expressed the following views:

"Because I can get feedback right from teacher when I make a mistake, not from my friends. They might be wrong." (S8)

"I had more time to practice and communicate with my classmates and my teacher." (S4)

Moreover, six of the students commented that FCI enabled interesting and easy learning. It was also motivating and encouraging. One student explained it in the following way:

"It assists me to understand easily, it's useful method to understand the lessons, it is fun and exciting." (S7)

Furthermore, four students defined themselves as being motivated, and they believed that FCI had increased their motivation and enthusiasm toward learning. One student claimed the following:

"I define myself as motivated student, I am excited about learning activities with my classmates and my teachers, and I don't feel shy to answer when the teacher questions." (S3)

Moreover, some students commented that slow internet connection was a problem (N=7) as one student explained it in the following way:

"Internet connection in Iraq is very slow and I cannot even have access to the internet within the campus in all Iraqi universities." (S7)

Additionally, six students reported that the quality of the videos was a problem. For example, some of them were grainy and unclear, which made FCI boring for them. One participant stated the following:

> "Maybe it is related to the videos, if it is too long or not clear, then the method would be boring." (S2)

In addition, three students thought that social factors were a barrier which might source from the culture and tradition of the community. Students at that age still depend on their parents in Iraq. One student explained it as follows:

> "I am restricted to use internet at home, my parents would not let me to be online most of the time" (S5)

Furthermore, four students reported that little knowledge of technology use was a barrier. One student explained it in the following way:

> "I don't know how to use the internet for education, especially this method of knowledge needs training before" (S3).

As demonstrated by the interview responses, FCI has advantages due to its allowance of classroom time for more practice and easy access to subject matter whenever needed; therefore, FCI may increase students' motivation and excitement toward learning. Students felt that having access to the videos 24 hours a day was quite advantageous. They emphasised instant feedback from their teacher but not from classmates. According to them, FCI increased their interactions among their teacher and their peers due to prior knowledge of subject matter, which helped them to build their confidence and improve their understanding of the content while increasing their levels of motivation, engagement, and self-independence as well. FCI also urged them to challenge the subject matter, raise awareness of their needs at their own pace, and strive to participate in classroom activities without being worried, embarrassed, or shy. It also provided them with opportunities to work collaboratively and cooperatively in order to improve engagement and their learning**.**

5. Discussion

Based on the data obtained from students' responses to the questionnaires and interviews, it can be determined that most learners had positive opinions of FCI, and a remarkable number of students described themselves as more motivated, self-confident, active, engaged in classroom activities thanks to FCI. There was a clear reflection of learner engagement and a better interaction among students who felt better confidence in their achievements and abilities through FCI. These characteristics, which were stated by many students who received FCI, were not only reflected by the questionnaires and interviews but also by an improvement in their grades on the writing test. These findings align with Adedoja (2016), who found that the

attitude of pre-service teachers was positively in favour of flipped instruction and FCI promoted active learning strategies and provided more opportunity for deep interaction not only with the learning materials but also with classmates and instructor due to prior knowledge of content. Similarly, they are in line with the findings of the study conducted by Nouri (2016), who witnessed the effect of FCI on promoting student engagement and a more active approach to learning.

According to the results of this study, FCI can contribute to developing EFL pre-service teachers' writing skills. This finding is in line with a study conducted by Mireille (2014), who found that FCI can contribute to improving learners' grades on English writing proficiency tests. Accordingly, a study conducted by Ayoub (2006) indicated that most errors made by Iraqi EFL learners were due to teaching methods and other additional factors such as limited class time, enthusiasm, motivation, and independence on behalf of students, all of which led to their boredom. Therefore, productive instruction approaches are essential to improve the writing skills of Iraqi EFL learners. In this context, FCI positively impacts learners' writing abilities in a collaborative environment. Instruction can either be an obstacle or a chance for learning. Class preparation and instructional videos deliver opportune time for learners to comprehend the ruling concepts that control their writing.

The findings also demonstrate that the current study is consistent with the theoretical assumptions of cognitive language learning and the role of attention and noticing in second language acquisition (Saville-Troike, 2012; Schmidt & Ellis in Robinson, 2001). The improvement of learners' writing skills is largely accredited to the influence of noticing, without which "there is little if any learning" (Robinson, 2001, p. 11). Students' mental input increases when methodological instruction is changed and enhanced to fulfill their necessities and demands. In this case, language becomes easier, more recognizable, and more overt for them. In addition, the results of the research are also parallel with the theory of constructivism. Experimental group participants could form their long-lasting memories more effectively by using inductive instruction techniques to advance their writing abilities.

This study is also consistent with studies conducted in Turkey that investigated FCI in the Turkish EFL context (Ekmekci, 2017). The findings indicated that those students who studied under the new model of teaching outperformed those who studied under the traditional teaching method. The current results also are in accordance with a study conducted in Japan by Leis et al. (2015), who flipped their English writing composition classroom to investigate the effectiveness of FCI. Overall, it has been proven that FCI results in substantially greater enhancements in the writing abilities of students.

6. Final conclusions and implications for the future

Throughout the recent years, technology use generally has been at the core of education, especially for linguistic instruction. The analyses of this study's findings prove that FCI improves students' writing abilities more than does a traditional method of instruction. It is obvious that the flipped classroom creates a more student-centred atmosphere and increases learners' autonomy, which is necessary for meeting the demands of 21st-century students (Marchionda, Bateiha, and Autin, 2014). The outcomes of the study have also verified the hypothesis that learners are more involved and active during FCI compared with lecture-based instruction. According to participants' views, FCI enabled them to become more motivated and more autonomous in their language acquisition. FCI allocates class duration for activities by having students preview the lesson prior to class and employs various instructional strategies rather than theoretical explanation. In this manner, students have the opportunity to preview class content several times to comprehend key features. In FCI, students devote a great quantity of in-class time to practicing what they have been instructed via instructional videos. This promotes active, independent, and collaborative learning in the classroom. Similarly, the teachers feel more confident and direct students without being frustrated or worried about the time aspect, which is always an issue in traditional instruction. More in-class time is created in which the teacher can give individual feedback, correct mistakes, and explain misconceptions. In fact, the policy behind FCI makes it clear that flipped learning is more than just recording video-lectures. Classroom duration can be employed more efficiently and profitably by dealing with each student individually.

The outcomes of the study indicate that implementing FCI in writing classes is an effective way of improving Iraqi EFL learners' writing skills. Future research into this topic should seek to examine the impact of FCI on the role of class feedback and students' motivation in writing skills. The findings of the questionnaire and interviews confirm that FCI is more engaging than traditional methods, and students are more in favor of FCI as well.

This study has several implications for the future of writing instruction. The creative method utilized has not yet been followed in university writing classrooms in Iraq. It encourages educators to employ learner-focused approaches in which students have more chances to participate equally in the content being presented and practiced. During the FCI treatment of this study, it was observed that the learners experienced growth in their class participation, which is an additional benefit of this approach.

This study also urges a reconsideration of university funds and structure to enable such a teaching method at universities. Similarly, it suggests a more prominent and directed use of

technology among university EFL students as well as students of other disciplines. There is a necessity for more conferences and opportunities for EFL instructors to acquire knowledge regarding FCI and similar approaches.

This study also has some recommendations for future research. It has introduced some interesting findings regarding the effect of FCI on developing writing skills. However, it was conducted only in one department in a university. Thus, future studies might involve additional departments, more universities, or more levels of education. Since this study focused on sophomore EFL learners in an Iraqi setting, future studies might consider different levels of students and a larger number of participants to address variations in writing.

References

Abu-Rass, R. (2001). Integrating reading and writing for effective language teaching. *Forum*, *39*(1),30-33.

Adedoja, G. (2016). Pre-service teachers' challenges and attitude toward the flipped classroom. *African Educational Research Journal*, *4*(1), 13-18.

Alsamdani, H. A. (2010). The relationship between Saudi EFL students' writing competence, L1 writing proficiency, and self-regulation. *European Journal of Social Science*, *16*(1), 53-63.

Ayoub, H. (2006). The analysis of errors made by Iraqi students in writing. *Journal of College of Languages*, *1*(15), 1-16.

Bergmann, J., & Sams, A. (2012). Flip your classroom: Reach every student in every class every day. *International Society for Technology in Education.* Retrieved 1 January 2019 from https://books.google.com.tr/books/about/Flip_Your_Classroom.html?id=nBi2pwAACAAJ&redir_esc=y

Bergmann, J., & Sams, A. (2014). Flipped learning: maximizing face time. *T+D*, *68*(2), 28-31.

Brooks, J. G., & Brooks, M. G. (1993). *In Search of Understanding: The Case for Constructivist Classrooms*. Alexandria: VA: ASCD.

Brown, H. D. (2007). *Teaching by Principles: An Interactive Approach to Language Pedagogy*. White Plains, NY: Pearson Longman.

Burns, M. (2013). Success, failure or no significant difference: Charting a course for successful educational technology integration. *International Journal of Emerging Technologies in Learning*, *8*(1), 38-45.

Butt, A. (2014). Student views on the use of a flipped classroom approach: Evidence from Australia. *Business Education & Accreditation*, *6*(1), 33-43.

Creswell, J. W., & Plano Clark, V. L. (2007). *Designing and Conducting Mixed Methods Research*. Thousand Oaks, California: Sage Publications.

Creswell, J. W. (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (3rd ed.). Thousand Oaks, CA: Sage.

Cuban, L. (1983). How did teachers teach, 1890-1980. *Theory into Practice*, *22*(3), 159-165.

Dörnyei, Z. (2007). *Research Methods in Applied Linguistics: Quantitative, Qualitative, and Mixed Methodologies*. Oxford: Oxford University Press.

Ekmekci, E. (2017). The flipped writing classroom in Turkish EFL context: A comparative study on a new model. *Turkish Online Journal Of Distance Education (TOJDE)*, *18*(2), 151-167.

Ezzy, D. (2002). *Qualitative Analysis: Practice and Innovation*. Crows Nest: NSW: Allen & Unwin.

Ford, M. B., Burns, C. E., Mitch, N., & Gomez, M. M. (2012). The effectiveness of classroom capture technology. *Active Learning in Higher Education*, *13*(3), 191-201.

Glewwe, P., & Muralidharan, K. (2016). Improving school education outcomes in developing countries : Evidence, knowledge gaps, and policy implications. *Handbook of the Economics of Education*, *5*, 653-743.

Hamdan, N., McKnight, P., McKnight, K., & Arfstrom, K. M. (2013). A review of flipped learning. Flipped Learning Network. Retrieved 1 January 2019 from https://flippedlearning.org/wp-content/uploads/2016/07/LitReview_FlippedLearning.pdf

Karpov, Y. V. (2003). Vygotsky's doctrine of scientific concepts. Its role in contemporary education. In A. Kozulin, B. Gindis, V. S. Ageyev, & S. M. Miller (Eds.), *Vygotsky's Educational Theory in Cultural Context* (pp. 65-82). Cambridge: Cambridge University Press.

Kaufman, D. M. (2003). ABC of learning and teaching in medicine: Applying educational theory in practice. *BMJ*, *326*(7382), 213-216.

Leis, A., Cooke, S., & Tohei, A. (2015). The effects of flipped classrooms on english composition writing in an EFL environment. *International Journal of Computer-Assisted Language Learning and Teaching*, *5*(4), 37-51.

Marchionda H, Bateiha S, Autin M (2014). The effect of instruction on developing autonomous learners in a college statistics class. In K. Karp & A. Roth (Eds.), *Using Research to Improve Instruction* (pp. 45-54). Reston, UK: NCTM.

Mehring, J. G. (2015). *An Exploratory Study of the Lived Experiences of Japanese Undergraduate EFL Students in the Flipped Classroom. A Thesis in Learning Technologies (Doctoral's Thesis)*. Malibu, California: Pepperdine University.

Mireille, F. (2014). *The Impact of using a Flipped Classroom Instruction on the Writing Performance of Twelfth Grade Female Emirati Students in the Applied Technology High School (Aths).* A Thesis in Teaching English to Speakers of Other Languages (Master's Thesis). Dubai: The British University.

Network, P. & T. F. L. (2013). Flipped learning professional development [online]. [Accessed 8 December 2013]. Available at: http://www.pearsonschool.com/flippedlearning.

Nouri, J. (2016). The flipped classroom: For active, effective and increased learning – especially for low achievers. *International Journal of Educational Technology in Higher Education*, *13*(1), 33-43.

Nunan, D. (1999). *Second Language Teaching and Learning*. Boston: Heinle& Heinle Publishers.

Paola, B. (2011). Student Learning Tools. Retrieved 1 January 2019 from https://www.mesacc.edu/~paoih30491/RubricParagraphAssignment.html

Pearson & The Flipped Learning Network. (2013). A review of flipped learning.[online]. Retrieved 8 December 2013 from http://www.flippedlearning.org/cms/lib07/VA01923112/Centricity/Domain/41/LitReview_FlippedLearning.pdf.

Robinson, P. (2001). *Cognition and Second Language Instruction*. Cambridge: Cambridge University Press.

Sams, A., Bergmann, J., Daniels, K., Bennett, B., Marshall, H. W., & Arfstrom, K. M. (2014). The four pillars of F-L-I-P. Retrieved 1 January 2019 from http://www.flippedlearning.org/cms/lib07/VA01923112/Centricity/Domain/46/FLIP_han

dout_FNL_Web.pdf.

Saville-Troike, M. (2012). *Introducing Second Language Acquisition*. Cambridge: Cambridge University Press.

Strayer, J. F. (2012). How learning in an inverted classroom influences cooperation, innovation and task orientation. *Learning Environments Research, 15*(2), 171-193. https://doi.org/10.1007/s10984-012-9108-4

Sung, K. (2015). A case study on a flipped classroom in an EFL content course. *Multimedia-Assisted Language Learning*, *18*(2), 159-187.

Suter, W. N. (2006). *Introduction to Educational Research: A Critical Thinking Approach*. Thousand Oaks, California: Sage Publications, Inc.

Walie, N., & Yahya, D. (2010). Managing language learning difficulties. *Journal of Research Diyala Humanity*, *46*, 472-488.

Weimer, M. (2013). *Learner-Centered Teaching: Five Key Changes to Practice*. San Francisco: Jossey-Bass.

Zownorega, S. J. (2013). *Effectiveness of Flipping the Classroom in a Honors Level, Mechanics-Based Physics Class.* A Master's Thesis in Natural Sciences Concentration in Physical Science (Master's Thesis). Charleston, Il.: Eastern Illinois University.

SOCIAL MEDIA IMPACT ON LANGUAGE LEARNING FOR SPECIFIC PURPOSES: A STUDY IN ENGLISH FOR BUSINESS ADMINISTRATION

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Abstract

Nowadays, social media are dominating the life of people. Facebook has become noticeably widespread among the youth, and students in particular. Research has indicated that Facebook could be an effective platform for language learning. This study, therefore, comes to explore the effects of Facebook-assisted teaching on learning English for specific purposes by students at the University of Tabuk, Saudi Arabia. A sample of 64 students from the Faculty of Business Administration, taking a Business Letters course in English, were divided into a Facebook-tutored group and a traditional classroom tutored group and were given the same vocabulary content. The two groups were given pre- and post-tests to measure their vocabulary learning, and were subjected to an interview to gauge their attitudes towards the instructional methods which were put to use. However, no significant difference between the two groups was found in terms of achievement in spite of the positive response and the high satisfaction level the Facebook-tutored students showed towards the use of such a platform.

Keywords: social media; Facebook; English language learning

1. Introduction

In the recent years, information technologies and social media, in particular, have affected the life of Saudis, in general, and the educational community in particular. It is due to their different forms which help people communicate in various ways: such as blogs, social networks (Facebook), microblogs (Twitter), wikis (Wikipedia), video podcasts, and photo sharing (Instagram and Snapchat). Such applications as Facebook, Twitter, YouTube, and WhatsApp have massively boosted social interaction and information sharing within student and teacher communities alike. The reason behind this expansion might well be the human craving for discovery, boundless connection and exchange of information and opinion with other users with the same interests. Social media applications allow users to cross the boundaries of their countries, connect and express themselves on a global scale (Thorne, 2010).

It follows that the possibilities offered by social media nowadays could also be linguistically rewarding for users, be they students or educators, as these media interactions are bound to take place either within the same linguistic communities or across different ones. Facebook, as one of those media, has been globally ranked as one of the most used social platforms ever created with 1.86 billion users (facebook.com). It has come to yield unprecedented opportunities for foreign language teachers and learners alike, as it offers them the possibility to exchange limitless numbers of text messages, images, and videos. Such options can give those users and language learners, in particular, the opportunity to practice with new texts and learn new vocabulary through interaction, especially if it extends over time. As regards educators, they can benefit from Facebook by using it as a platform to post different kinds of materials (texts, images, graphs, and video), to be worked upon, edited, added to and shared among their students to attain intended objectives. Hence, the teaching experience can be more accessible and centered around students, as more room is given to learners to collaborate and an atmosphere of conviviality and creativity is enhanced among them (Selwyn, 2012).

The research interest in Facebook is growing due to its increasing popularity and the possibilities it gives teachers and students to share information and learn from each other. Facebook remains the most popular social network, accounting for 71% of Internet users (Balakrishnan & Lay, 2016). It has about 1.8 billion users around the world and 14 million users in Saudi Arabia, 7 million of whom are aged between 18 and 29 (www.globalmediainsight.com). This considerable figure can be ascribed to the possibilities Facebook provides for its users to share a large amount of data and communicate with friends. Besides, Facebook allows its users to send and receive prompt messages and mail and is an efficient means of information sharing, socialization, and adaptation to university life among students and instructors (Roblyer et al., 2010; Yu et al., 2010; Bowers-Campbell, 2008). In the same vein, Blattner and Fiori (2009) found that Facebook helped students improve their socio-pragmatic competence. Lee (2006) argues that Facebook use enhanced students' oral proficiency, vocabulary acquisition, and syntactic complexity in the Korean language. Derakshan and Hasanabbasi (2015) claims that Facebook promoted students' communication and language skills. Yet, studies on the impact of Facebook on Arab students' English language acquisition, especially in KSA, are still rare and the existing ones remain too general as they do not focus on specific language areas. This should give us the legitimacy to embark on a study that would focus on the effects of Facebook use on ESP students' achievement in English as a second language, especially in the sphere of vocabulary learning.

2. Literature review

2.1. Social media import and usage at university level

Various studies have dealt with social media availability and the new horizons they have created, especially for the youths (Lin et al., 2016). Out of these media, YouTube and Flickr are used to share visual materials, Facebook and Linkedin provide social networking, Wikipedia specializes in the development of collaborative knowledge and Twitter in microblogging (Balakrishnan & Lay, 2016). For Lin et al. (2016), social media, such as Facebook, Twitter, and YouTube, not only give users the possibility to generate information but also to share it with other users around the globe.

In view of their proliferation and the possibilities they provide, researchers have called for the use of social media in the field of education (Everson et al., 2013; Greenhow & Robelia, 2009; Roblyer et al., 2010). Balakrishnan and Lay (2016) report that Facebook and YouTube have been used "within and outside classrooms for teaching purposes, such as to upload educational videos or learning materials for students". Such action has been taken due to the popularity of these media among students who use them to complement and thus enhance their classroom learning due to their ease and speed of communication. Consequently, it can be argued that users' attitudes depend on medium functionality and students' environment. Attitude is, in turn, determined by users/students' learning style. By environment, we mean the opportunities the students have to communicate in English as a second language, which will partly determine their recourse to social media to fulfill their communicative needs within a meaningful setting. As it has been investigated by Chartrand (2012), students who have limited time for real English communication can be encouraged use to the Internet to upgrade their English language communicative skills. As to students' learning styles, as it is argued here, they partly determine the degree and manner in which those students use social media. Balakrishnan et al. (2015) explore the effect of these styles on their intentions to use social media for learning. More particularly, the researchers studied the causes behind students' intentions to use social media for learning, as this phenomenon has been gaining ground among university students.

Balakrishnan and Lay (2016) underline the importance of teachers' awareness of their students' learning styles and their effect on social media usage. The researchers base their view on the Social Learning Theory (SLT), which posits that learning is most effective when learners are allowed to observe and interact with other learners, as well as form or participate

in small study groups compared to the lecturers' teaching styles (Bandura, 2002; Gong et al., 2014). They argue that "this theory has become popular with the widespread use of social media and mobile technology" (Balakrishnan & Lay, 2016, p. 810). Out of the three types of learning styles – participatory, independent, and collaborative – Balakrishnan et al. (2015) advance that students with a participatory learning style might favor Facebook and YouTube as learning tools as they permit them to acquire information from their peers anywhere and virtually instantaneously. As such, these media can be quite appealing for such a category of students.

Independent learners, too, can benefit from social media, as these students tend to rely on themselves in retrieving information when they can access it, either through Facebook or YouTube. According to Umrani-Khan and Iyer (2009; cited after Balakrishnan and Lay, 2016), such learners tend to prefer independent study, self-paced work, or special projects based on their interests. Besides, the practicality and omnipresence of social media can give them the possibility to decide about their study schedules. As collaborative students are generally extroverts, they are not concerned about anonymity. Hence, Facebook, Twitter, and YouTube can facilitate their collaboration and information exchange by providing platforms for their discussions. Therefore, such sites can be successfully exploited to enhance collaborative learning.

2.2. Effects of Facebook use on students' English language skills

With the interaction opportunities Facebook offers its users, it is the embodiment of the social-interactionist approach to language acquisition advocated by Lantolf (2000), in keeping with Vygotsky (1978). Facebook can provide language learners with new prospects of real time cultural and linguistic interchange (Harrison & Thomas, 2009; Harrison, 2013). Besides, from an ecological perspective, which views context as fundamental to language learning (van Lier, 2004), thanks to the contextual clues it provides and the conversational features it provides, Facebook can represent ideal sites of language learning. Cain and Policastri (2011), following Gibson (1979), evoke the use of affordances, defined as objects, places, events or things, by students, with the help of their teachers to maximize language learning. In he recent years, affordances have come to be embodied in high-performance mobile devices, which have enhanced connection and interaction features, providing learners with more opportunities of target language contact, thus contributing to the improvement of their academic performance.

One fundamental interaction pre-requisite is the acquisition of target language vocabulary. Sim and Pop (2014) focus on the effects of social media, notably Facebook, in developing students' English vocabulary. Besides, social media were shown to be effective in developing the areas of language production, as proposed by Chartrand (2012). Chartrand argues, following Swain (2007), that production is an integral part of language learning. Chartrand claims that social media can assist students in learning the language through the use of podcasts and videos. In the same vein, Woo et al. (2007) maintain that multimedia materials can enhance students' motivation to learn the language. Kamnoetsin (2014) found that the Facebook platform assisted students in developing their grammar, vocabulary, and writing, as it helped them share information and acquire new knowledge. Moreover, the platform proved to be useful in updating students about modifications regarding their courses, as an online information center. Facebook, therefore, was shown by the above studies to be a useful tool for enhancing language skills such as writing and reading. In writing, users may gain experience through composing various messages, and in reading they have the chance to read a variety of new messages. Thus, they have the opportunity to learn new words in authentic contexts.

2.3. Is social media use beneficial all the time?

While certain researchers and educators lament the scarcity of empirical research which addresses the question of social media as facilitators of language learning (Stevenson & Liu, 2010; Lamy & Zourou, 2013; Zourou, 2012); others have claimed that the use of social media by university students is more harmful than beneficial. Selwyn (2012) argues that social media are not always used for the good cause, i.e., for learning. He cites Selwyn (2009) who found that 95% of Facebook interactions involving UK students were not related to their academic concerns. Instead, the study proved that those students tend to use social media to deal with ordinary subjects. In keeping with Waycott et al. (2005), Nicholas et al. (2009) and Selwyn (2012) advance that students, generally, do not use social media for academic reasons, and that the applications they have recourse to do not match their academic level, as they tend to be simple and therefore do not necessitate high intellectual aptitude.

In the same vein, Tariq et al. (2012) claim that social media use affected negatively Pakistani students' academic achievement, as these students' were drawn towards chatting and subjects that had nothing to do with their education. Akram and Albalawi (2016) found that Facebook distracted Saudi students and therefore negatively affected their concentration and academic achievement. Amidst the above claims and counter claims, the present research

comes to verify if and when social media in general, and Facebook in particular, affect students' achievement at the University of Tabuk, in the area of second language acquisition, particularly that of English vocabulary learning.

3. The study

This upsurge of social media use and the opportunities it has come to offer have urged us to embark on a study that would disclose the effects of social media use on Saudi students' English language achievement. More specifically, the research concerns a population of ESP students at the University of Tabuk, a modern and ambitious university in the north of Saudi Arabia, which has sought to develop its students' competences especially in the area of English language. The area which the present research deems fundamental for students studying business English is the acquisition of specialized vocabulary and terms necessary in their field and crucial for their graduation.

The present research, therefore, will focus mainly on the effects of Facebook use on those students' achievement in the area of English vocabulary acquisition. To verify the effects that Facebook might have on learning, an experimental study was conducted on a sample of students at the Faculty of Business Administration. The sample involved two groups of students; one in the first semester and another in the second semester of the academic year 2016/2017. Each of the groups was itself divided into an experimental group (A) and a control group (B). The two groups took the same course, which is Business Letters. It was assumed that significant differences were to be found between the two groups (A and B) in terms of vocabulary learning; the one which was taught via the Facebook platform and the other which took the same course in a traditional classroom.

3.1. Methodology

In terms of its epistemological position, this study adopts an interpretivist stance based on social media assisted language learning. In fact, interpretive research began to gain prominence in the research about information systems only at the dawn of the 1990s, when Orlikowski and Baroudi (1991) remarked that the interpretive paradigm made only a tiny part of the literature and published works. The emergence of the interpretative trend in Information Systems Research is linked to the fact that a number of researchers have questioned the application of positive precepts in the field of social phenomena research by exposing a range of problems related to this inadequate deployment. Since then, they have called for the

adoption of interpretative approaches, assuming that an information system is both a social and a technical entity (Walsham, 1995).

Moreover, by bringing together social media platforms and language learning in an interactive way**,** this approach to language teaching might help to motivate students to engage in communicative activities which would ultimately enhance their language skills and bring about learning. Students could be enabled to engage as much as possible in activities which require the use of language, and thus result in learning. The research question is to be answered using data gathered through a qualitative method through a work done with a population of students taking a Business Letters course at the University of Tabuk. The qualitative method provides complex textual descriptions of how people experience in a given research issue. Through this method, the researcher can identify intangible factors such as socioeconomic status, social norms, gender roles, ethnicity, and religion, whose role in the research issue may not be readily apparent.

3.2. Design and data collection procedures

The data collection was mainly done through semi-directive interviews with participants, but also through passive observation and comparison of the results of pre- and post-tests. The rationale behind such choices was to diversify the techniques of investigation and data collection in order to have as much information as possible for better triangulation possibilities.The choice of semi-structured interviews for Group A students is due to the fact that such interviews allow the researcher to eliminate the interviewees' reservations and encourage them to speak the truth. The interviews were an opportunity for students to express themselves freely, but they were under the researcher's control on specific questions (Wacheux, 1996). This is because when researchers play the role of the thematic guide, they help respondents express their thoughts, remind them of their latest remarks, and refocus the conversation. Ultimately, these interviews aim at gathering students' beliefs, opinions and expectations regarding the pedagogical content of the Facebook page.

An experimental study was conducted on a total of 64 students belonging to the Faculty of Business Administration over two semesters in 2016/17. The first group, which consisted of 26 students, took the course in the first semester. The second group, which had 38 students, took it in the second semester. Each one of the two groups was in turn evenly divided into two groups; the experimental group (group A) and the control group (group B). These students took the Business Letters course in English over the academic year 2016-2017. It was assumed that significant differences in terms of achievement would be found between

the two groups; the one using social media to learn vocabulary and the other that underwent traditional classroom tutoring for the same purpose.

The subjects were third-year students seeking to obtain their Bachelor Degree in management science from the Faculty of Business Administration at the University of Tabuk, KSA. They took English language foundation courses previously, in the 1st and 2nd years of their studies. They were supposed to have acquired the basic linguistic knowledge of vocabulary and grammar to write and speak in English. It should be noted that the acquisition of English is a priority for Saudi students wishing to pursue their post-graduate studies, especially for those who wish to do it abroad, at American, British or Australian universities. As regards the selection of the sample, it was made by reasoned choice in order to reflect the diversity of opinions concerning the effects of Facebook use on the students' learning of business English vocabulary.

At the beginning of the first semester of the academic year 2016-2017 a Facebook group was set up for the Business letter course class use (for group A only). The group was asked to follow the Facebook page for updates on new materials and information regarding the course. Although the posts were clear, concise and organized, students were encouraged to interact with each other and with the teacher in case they encountered any difficulties related to language or other aspects of the materials. In fact, this group was exposed to videos and posts in English. The videos contained series of images, objects and scenes in which the targeted vocabulary items were used, supported by sound and subtitled text (e.g. CV, cover letter, Job offer, supply order, quotations, price list, etc.).

Group B took the same vocabulary content but through traditional in-class teaching, using textbooks and board. The same was done in the second semester with the group of 38 students. By the end of the course, all 64 students would have learnt the same vocabulary items and were asked to do the same assignments. Both groups were given the same pre- and post-tests. The assigned tests consisted of 10 multiple-choice questions each. The objective of the pre-test was to assess the students' background knowledge of words. The pre-test was administered after the course ended as a post-test to assess the students' learning of the new vocabulary items.

3.3. Results and findings

The 64 students in both groups with their experimental and control sub-groups (A and B) were tested after they have taken the same course. Overall, the results of the post-test showed

the students' modest level in Business English vocabulary achievement. Indeed, the following table highlights this trend over the two semesters.

Table 1. Pre-test results

Correct answers in pre-test	**Semester 1**	**Semester 2**
10	0	0
9	0	2
8	1	2
7	1	1
6	2	4
5	4	9
4	7	9
3	6	2
2	2	4
1	0	3
0	3	2
Total number of students/ group	**26**	**38**

Table 2. Post-test results

Correct answers in post-test	**Semester 1**		**Semester 2**	
Groups	A	B	A	B
10	0	0	1	0
9	1	0	2	2
8	1	1	2	1
7	3	2	1	2
6	2	4	2	4
5	2	4	8	5
4	3	0	0	3
3	0	2	2	1
2	1	0	1	1
1	0	0	0	0
0	0	0	0	0
	13	13	19	19
Total number of students/ group	**26**		**38**	

The results show that there are no great differences between the two groups in terms of achievement, which was nearly at the same level. On the other hand, the results show a slight improvement in students' level after taking the course in both groups, in the traditional class and the Facebook-supported class.

These results are also highlighted in the responses of interviewed students in the experimental groups. Indeed, as one student in these groups said,

> I am constantly connected to Facebook via my mobile phone and I consult the group page on a daily basis to see if there are new posts, and I have viewed the photos to better memorize some of the course vocabulary items to improve my grade, which is still fairly average.

Another student says

> the course is well explained in the classroom, but more pictures on the Facebook page make memorization of the terms much easier, but I prefer traditional explanation in the classroom because once on Facebook I am attracted to other videos and news instead of consulting Just the group page. I end up wasting my time looking at other pages and links."

A third student points out that the existence of the course cards with the pictures makes it unnecessary for him to attend the traditional lectures in the classroom. He claims that "there is everything on the Facebook page to properly review and prepare for exams in such a way that there is no need to attend the course in class." Another student's view was that

> the Facebook page with the explanation of the classroom teacher allowed me to better solve the test questions. Besides, my marks have improved. I find that Facebook can be used as an entertainment tool but also as a teaching tool on condition that we are well controlled by our teacher.

The interviewees' responses show that their views about the subject taught were affected by Facebook use although the test results do not allow us to decide about the exact nature of this influence (positive or negative), and even less on the possible pedagogical role that social networks such as Facebook can play. Moreover, the results reached do not allow us to confirm the positive or negative effects of Facebook use, because the students' opinions remain rather mixed. Most of the interviewed students highlight their chronic weakness in English and admit that they consult Facebook on a daily basis not to follow the pedagogical material posted for them to improve their knowledge but more to follow their friends' news, watch videos, play and entertain themselves in their own way.

In this way, it can be argued that Facebook distracts students and disrupts their learning process. This corroborates the findings of previous studies, such as the ones done by Tariq et al. (2012) and Ketari and Khanum (2013), which highlight the negative effects of Facebook use on students' concentration and their academic careers. Yet, we have noted a slight improvement in the results of some students; 2 in the first semester and 5 in the second semester (Group A students who obtained 8 correct responses in the post-test). These students' achievement in the pre-test was fairly average, as they got only five correct answers. They had used Facebook frequently for years and found out that the combination of the two learning methods is conducive to improving their level. As one of the students says, "the Facebook page is interactive due to the videos which contain visual examples with captions, I can better memorize certain terms because now I combine them with the visualized images". Another student says on the same subject:

> thanks to my attendance in the classroom and the posts on the Facebook page, I was able to better understand the course and do the exercises more easily. More importantly, I was able to

have a good mark in the test. The Facebook page helped me a lot in learning and mastering the new vocabulary.

The students' responses show that the content of the Facebook page can help the diffusion of knowledge via pedagogical videos posted online. Therefore, we can safely claim that the Facebook platform can help students in the process of understanding and learning English vocabulary. Thus, the findings of studies such as the ones done by Roblyer et al. (2010), Yang et al. (2011) and Novak et al. (2012), which emphasize the positive effect of social networks on students' learning, are corroborated. However, in terms of post-test results, not much was achieved.

The students who participated in the Facebook tutoring generally exhibited a positive attitude toward this new type of learning experience. The learning achievement of the Facebook group was slightly better than that of the control group. Students' attitudes towards Facebook tutoring were on the whole positive as the platform provided them with a flexible environment to communicate and share information. However, there was no significant difference in terms of learning achievement between Facebook-assisted language learning and traditional classroom teaching. Hence, we need to distinguish between students' attitude and receptivity towards the use of social media in language learning and their actual achievement in that area. The solution might be that our students need more motivation and scaffolding by instructors to improve their achievement in the area of English vocabulary learning. Besides, it seems that further research is needed to better understand the effects of social media on second language learning. It also seems that teachers need to fine tune their social media assisted teaching strategies as they gain more insight into the workings of such media and the nature of students' interaction with them. We hope that in the future, with the development of more sophisticated strategies and methods, both student's attitudes and learning achievement would be positively affected by social media use in our universities.

4. Limitations of the present study and recommendations for the future

The present study dealt with a limited number of students (64) studying at the Business Administration Faculty of the University of Tabuk. It focused only on the Facebook platform. Still, more research is needed for a decisive view on the exact effects of social media use on foreign language learning in university settings. It is, therefore, necessary to investigate the educational use of social media further and construct a conceptual model with dependent variables to test the degree of the possible contribution of Facebook, and even other platforms, to the learning process, with the involvement of more faculties and departments. In

order to test this model, it would be imperative to enlarge the sample size by switching to a quantitative methodology based on a positivist epistemological approach, which requires a large-scale survey at the university level. Such an approach could be the subject of future research developments for a wide exploration of the possible impact of social networks on students' learning abilities and achievement.

Although the results of the present study were not conclusive, we still recommend that universities adopt social media in their programs to catch up with their rapid proliferation and students' need for them. Studies into the effects of social media on foreign language learning have reached different results and some media drawbacks might be extant. However, one thing is certain: if learners at different levels were to use such media they have to be guided and controlled to guarantee their principled use. While the way social media are to be utilized should take into consideration the specific cultural and educational context, it should be the subject of debates involving all concerned parties, especially students, because if those media are introduced into university curricula it is not because they are in vogue but because they are authentic and would really address students' needs and learning styles. Therefore, any measure in that direction should be widely discussed and not imposed. Educators have to make sure that students, who have become dependent on social media, will interact with the right people about the right subjects in the most appropriate ways to maximize their learning.

Social media should also be adopted by universities because the concept of learning itself is undergoing dramatic changes due to the unprecedented development in communication technology. Learning is no longer individually accumulated by attending teacher-centered lectures and tutorials; it is now based on "principles of collective exploration, play and innovation" (Selwyn 2012, p.3). Today, learning is seen as the learners' aptitude to access databases and information hubs anytime anywhere they need to. Students nowadays live in a more dynamic, information-dependent and connected world. They have grown into information-hungry group-dependent individuals on the go, whose thirst for knowledge can only be quenched by offering them the possibility to be socially and scientifically connected to other communities of learners around the globe, with whom they can instantly exchange information to evolve into more knowledgeable individuals. In terms of concrete measure concerning those students, the evaluation of their assignments and co-authored works should be reconsidered in the light of their use of social media (Selwyn, 2012). Ways to support and supervise students using social media should be reconsidered and traditional institutional courses should be repackaged via motivating discussion groups or pages monitored or moderated by leading students.

5. Conclusion

The present study sought to show the effects of social media use, in particular Facebook, by a sample of Business Administration students on their learning and achievement in the domain of business vocabulary. The interviews with these students and their observation showed that their attitudes towards Facebook-assisted teaching were on the whole positive. Yet, the overall results of the post-test demonstrated their limited achievement despite the slight improvement they showed after taking the course in its two versions (traditional and Facebook-assisted). These results partly corroborate previous studies findings (Tariq et al., 2012; Ketari & Khanum, 2013).

Still, these results should not undermine the originality of our study for three reasons; first this study was done in an Arab country, i.e. the KSA, which is known as a socio-culturally conservative country where learning a foreign language (English in this case) is not an easy task unless the learner spends some time in a country where that language is spoken. Therefore, local students have for long suffered from chronic weakness in foreign languages, which is partly due to their socio-cultural barriers. Secondly, the study focused on the domain of business English vocabulary, and not general English vocabulary. Thirdly, the present study findings allowed us to distinguish between the effects of Facebook tutoring, on the one hand on students' attitudes and motivation towards the course taken, and on their achievement in that course on the other.

Finally, despite the limited and inconclusive results of Facebook use on students' achievement, we believe that our universities should catch up with the rapid social and technological changes, and if they want to graduate students who will become operative citizens working for the good of their community, they have to cater for their needs, and give them more responsibility in planning their learning activities. In other words, if our universities want to be in the service of their communities, they should adjust to this new culture of e-learning and consider its tenets when designing its curricula and programs. Hence, the nature and function of higher education should be reappraised in the light of recent developments in communication technology and social media usage.

References

Akram, M. S., & Albalawi, W. (2016). Youths' social media adoption: Theoretical model and empirical evidence. *International Journal of Business and Management*, *11*(2), 22-30. http://dx.doi.org/10.5539/ijbm.v11n2p22

Balakrishnan, V., & Lay, G. (2016). Student's learning style and their effects on the use of social media technology for learning. *Telematics and Informatics*, *33*, 808-821. DOI:10.1016/j.tele.2015.12.004

Balakrishnan, V., Liew, T. K., & Pourgholaminejad, S. (2015). Fun learning with Edooware – A social media enabled tool. *Computers & Education*, *80*, 39-47. DOI:10.1016/j.compedu.2014.08.008

Bandura, A. (2002). Growing primacy of human agency in adaptation and change in the electronic era. *European Psychologist*, *7*(1), 2-16. https://doi.org/10.1027//1016-9040.7.1.2

Blattner, G., & Fiori, M. (2009). Facebook in the language classroom: Promises and possibilities. *Instructional Technology and Distance Learning*, *6*(1), 17-28. Retrieved 18 June 2017 from http://litu.tu.ac.th/km/05-8%20Introduction%20to%20abstract%20Writing%201.pdf

Bourlard, H., Krishnamurthy, V., Sun, Y,. Zhao, H. V., & Liu, K. J. R. (2012). A technological revolution: social learning and networking. *IEEE Signal Processing Magazine*, *29*(2), 20-21. https://doi.org/10.1109/MSP.2011.943584

Bowers-Campbell, J. (2008). Cyber pokes: Motivational antidote for developmental college readers. *Journal of College Reading and Learning*, *39*(1), 74-87.

Cain, J., & Policastri, A. (2011). Using Facebook as an informal learning environment. *American Journal of Pharmaceutical Education*, *75*(10), 207-217. DOI:10.5688/ajpe7510207

Chartrand, R. (2012). The reasons behind the popularity of social media. *Knowledge Management & E-Learning: An International Journal*, *4*(1), 74-82. Retrieved 18 June 2017 from http://learninglanguages.pbworks.com/w/file/fetch/80099558/170-479-3-PB.pdf

Derakshan, A., & Hasanbbassi, S. (2015). Social networks for language learning. *Theories and Practices in Language Studies*, *5*(5), 1090-195. DOI: http://dx.doi.org/10.17507/tpls.0505.25

Everson, M., Gundlach, E., & Miller, J. (2013). Social media and the introductory statistics course. *Computers in Human Behavior*, *29*(5), A69-A81. DOI:10.1016/j.chb.2012.12.033

Gibson, J. J. (1979). *The Ecological Approach to Visual Perception*. Boston: Houghton Mifflin.

Gong, Y. J., Zhang, J., & Li, Y. (2014). From the social learning theory to a social learning algorithm for global optimization. *IEEE International Conference on Systems, Man, and Cybernetics*, San Diego, CA, USA. DOI:10.1109/SMC.2014.6973911

Greenhow, C., & Robelia, B. (2009). Informal learning and identity formation in online social networks. *Learning, Media and Technology*, *34*(2), 119-140. DOI:10.1080/17439880902923580

Harrison, R. (2013). Profiles in social networking sites for language learning: Livemocha revisited. In M. N. Lamy & K. Zourou (Eds.), *Social Networking for Language Education* (pp. 100-116). New York: Palgrave Macmillan.

Harrison, R., & Thomas, M. (2009). Identity in online communities: Social networking sites and language learning. *International Journal of Emerging Technologies and Society*, *7*(2), 109-124. Retrieved June, 18, 2017 from http://clok.uclan.ac.uk/1682/

Kamnoetsin, T. (2014). *Social Media Use: A Critical Analysis of Facebook's Impact on Collegiate EFL Students' English Writing in Thailand*. Seton Hall University Dissertations and Theses (ETDs), 2059, Summer 8-17-2014. Retrieved 18 June 2017 from https://scholarship.shu.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=3075&context=dissertations

Ketari, L., & Khanum, M. (2013). Impact of Facebook usage on the academic grades: A case study. *Journal of Computing*, *5*(1), 44-48. Retrieved 18 June 2017 from https://www.scribd.com/document/213252998/Impact-of-Facebook-Usage-on-Academic-Grades-A-Case-Study

Lamy, M.-N., & Zourou, K. (2013). *Social Networking for Language Education*. Basingstoke: Palgrave Macmillan.

Lantolf, J. P. (2000). *Sociocultural Theory and Second Language Learning*. Oxford: Oxford University Press. Retrieved 18 June 2017 from http://old.fltrp.com/download/07041802.pdf

Lee, J. S. (2006). Exploring the relationship between electronic literacy and heritage language maintenance. *Language Learning & Technology*, *10*(2), 93-113. Retrieved 18 June 2017 from https://scholarspace.manoa.hawaii.edu/bitstream/10125/44063/1/10_02_lee.pdf

Lee, M. J. W., & McLoughlin, C. (2010). Beyond distance and time constraints: Applying social networking tools and Web 2.0 approaches to distance learning, In G. Veletsianos (Ed.), *Emerging Technologies in Distance Education* (pp. 61-87). Edmonton, AB: Athabasca University Press.

Lin, C.H., Warschauer, M., & Blake, R. (2016). Language learning through social networks. *Language Learning and Technology*, *20*(1), 124-147. Retrieved 18 June 2017 from https://scholarspace.manoa.hawaii.edu/bitstream/10125/44449/1/20_01_linwarschauerblake.pdf

Mazer, J. P., Murphy R. E., & Simonds, C. J. (2007). I'll see you on "Facebook": The effects of computer-mediated teacher self-disclosure on student motivation, affective learning, and classroom climate. *Communication Education*, *56*(1), 1-17. DOI:10.1080/03634520601009710

Nicholas, D., Gunter, B. & Rowlands, I. (2009). *The Google Generation*. Oxford: Chandos.

Novak, E., Razzouk, R. & Johnson, T. (2012). The educational use of social annotation tools in higher education: a literature review. *The Internet and Higher Education*, *15*(1), 39-49. DOI: 10.1016/j.iheduc.2011.09.002

Orlikowski, W. J. & Baroudi, J. J. (1991). Studying information technology in organizations: Research approaches and assumptions. *Information Systems Research*, 2(1), 1-28. DOI: 10.1287/isre.2.1.1

Roblyer, M., McDaniel, M., Webb, M., Herman, J., & Witty, J. V. (2010). Findings on Facebook in higher education: A comparison of college faculty and student uses and perceptions of social networking sites. *The Internet and Higher Education*, *13*(3), 134-140. DOI: 10.1016/j.iheduc.2010.03.002

Selwyn, N. (2009). Faceworking: Exploring students' education-related use of Facebook. Learning. *Media and Technology*, *34*(2), 157-174. DOI: 10.1080/17439880902923622

Selwyn, N. (2012). *Social Media in Higher Education*. The Europa World of Learning. Routledge. www.worldoflearning.com. Retrieved 18 June 2017 from http://www.educationarena.com/pdf/sample/sample-essay-selwyn.pdf

Sim, M., & Pop, A. (2014). The impact of social media on vocabulary learning: Case study Facebook, in Annals of the University of Oradea. *Economic Science Series*, *23*(2), 120-130. Retrieved 18 June 2017 from http://anale.steconomiceuoradea.ro/volume/2014/n2/013.pdf

Stevenson, M. P., & Liu, M. (2010). Learning a language with Web 2.0: Exploring the use of social networking features of foreign language learning websites. *CALICO Journal*, *27*(2), 233-259. Retrieved 18 June 2017 from https://www.learntechlib.org/p/74250/

Swain, M. (2007). The output hypothesis: Its history and its future. Retrieved 18 June 2017 from http://www.celea.org.cn/2007/keynote/ppt/Merrill%20Swain.pdf

Tariq, W., Mehboob, M., Khan, M. A., & Ullah, F. (2012). The Impact of social media and social networks on education and students of Pakistan. *International Journal of Computer Science Issues, 9*, 4(3), 407-411. Retrieved 18 June 2017 from https://www.ijcsi.org/papers/IJCSI-9-4-3-407-411.pdf

Thietart, R. (2003). *Doing Management Research*. Thousand Oaks: Sage.

Thorne, S. L. (2010). The intercultural turn and language learning in the crucible of new media. In F. Helm & S. Guth (eds.), *Telecollaboration 2.0 for Language and Intercultural Learning* (pp. 139-164). Bern: Peter Lang.

Umrani-Khan, F., & Iyer, S. (2009). ELAM: A model for acceptance and use of e-learning by teachers and students. In *Proceedings of The International Conference on e-Learning* (pp.475-485). Mumbai, India: Institute of Technology Bombay.

Van Lier, L. (2004). *The Ecology and Semiotics of Language Learning*. Boston: Kluwer Academic Publishers.

Vygotsky, L. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press.

Wacheux, F. (1996). *Méthodes qualitatives et recherche en gestion*. Paris: Economica.

Walsham G (1995). Interpretive case studies in IS research: nature and method. *European Journal of Information Systems, 4*(2), 74-81. https://doi.org/10.1057/ejis.1995.9

Waycott, J., Jones, A. & Scanlon, E. (2005). An activity theory framework for analysing PDAs as lifelong learning tools. *Special issue of Learning Media and Technology, 30*(2), 107-130. https://doi.org/10.1080/17439880500093513

Woo, Y., Herrington, J., Agostinho, S., & Reeves, T. C. (2007). Implementing authentic tasks in web-based learning environments. *EDUCAUSE Quarterly*, *30*(3), 36-43. Retrieved 18 June 2017 from https://er.educause.edu/~/media/files/article-downloads/eqm0735.pdf

Yang, J., Wen, Z., Adamic, L., Ackerman, M., & Lin, C. Y. (2011). Collaborating globally: Culture and organizational computer-mediated communication. In *Proceedings of the International Conference on Information Systems (ICIS).* Retrieved 18 June 2017 from https://pdfs.semanticscholar.org/d434/7232c47545ef56ab84719f93717a53b9626e.pdf

Yu, A. Tian, S., Vogel, D. & Kwok, R. (2010). Embedded social learning in online social networking. In *ICIS 2010 Proceedings*, Saint Louis, Missouri, USA. Retrieved 18 June 2017 from https://www.researchgate.net/publication/221599873_Embedded_Social_Learning_in_Online_Social_Networking

Zourou, K. (2012). On the attractiveness of social media for language learning: A look at the state of the art. *Media Sociaux et apprentissage des langues Alsic*, *15*(1), 1-17. Retrieved 18 June 2017 from http://journals.openedition.org/alsic/2436

21st CENTURY LEARNING SKILLS AND AUTONOMY: STUDENTS' PERCEPTIONS OF MOBILE DEVICES IN THE THAI EFL CONTEXT

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Abstract

This study examined the extent to which English as a Foreign Language (EFL) high-school students believed mobile devices increase learning and learner satisfaction in the Thai school/classroom context, and whether they are prepared for autonomous learning using these devices. The participants were 277 students in eight high-schools in Southern Thailand who completed a questionnaire constructed around the core competencies of 21st century learning skills and autonomous traits in relation to mobile device use. The findings indicated that students had access/ability to use mobile devices, and either agreed/strongly agreed that mobile devices increase their learning potential and satisfaction, suggesting they are ready for autonomous learning using mobile devices in partnership with their 21st century learning skills. Recommendations are made for teachers and policy-makers to allow students to complement their learning using mobile devices.

Keywords: mobile devices in EFL context; MALL; 21st century learning skills; learner autonomy

1. Introduction

Mobile devices – digital, portable, and internet accessible devices such as smartphones and tablets – have become an integral part of modern daily life with the potential to be used for varied educational and learning activities (Nankani & Ojalvo, 2010). There is much literature (Squire & Dikkers, 2012; Thomas & Muñoz, 2016; Thomson, 2009; West & Vosloo, 2013) highlighting the powerful learning which is possible by mobile devices, especially as support in language acquisition (EF EPI, 2017; Godwin-Jones, 2018). Mobile Assisted Language Learning (MALL) can bridge formal and informal learning, providing students with the ability to easily access supplementary materials to clarify ideas introduced by a teacher (West & Vosloo, 2013).

Despite their omnipresence, schools often prohibit mobile device use within the classroom and school (Beland & Murphy, 2015), with Thai Prime Minister Prayut Chan-o-cha

recently expressing growing concern towards in-class mobile device use by students, prompting the Ministry of Education to encourage schools to consider restricting mobile phone use ("Cell phone-free Classroom", 2017). The UNESCO policy guidelines for mobile learning believe negative social attitudes regarding the educational potentials of mobile devices to be the most immediate barrier to the widespread embrace of mobile learning. This technology is dismissed as distracting or disruptive in school as people largely view mobile devices as portals to entertainment and not education (McCoy, 2016; West & Vosloo, 2013). Moreover, the ability to use personal and social functions is not necessarily a good indicator of students' knowledge of the educational functions mobile devices afford (Stockwell & Hubbard, 2013), and the shy and passive nature of Thai's suggests they may not be suited to autonomous learning using these devices (Mann, 2012).

Thus, this study aimed to consider the students' voice; to what extent they perceive mobile devices to be advantageous in studying English, and whether they are prepared for self-sufficient autonomous learning using these devices. At the time of writing there was little previous investigation of the extent to which students' value mobile devices in English as a Foreign Language (EFL) learning in relation to autonomy and 21st century skills, especially in the Thai EFL context.

2. Background to the study

2.1. Autonomy and mobile devices

Learner autonomy is the "ability to take charge of one's own learning" and a potential capacity to act in a learning situation (Holec, 1981, p. 3). Kaur (2013) posited that the ultimate goal of education is "to produce lifelong learners who are able to learn autonomously" (p. 10). Yet the practicality of fostering learner autonomy in different cultural contexts can be challenging. Largely promoted by Western teachers and academics, attempts made to implement learner autonomy in different contexts (such as in EFL speaking countries) have often encountered difficulties due to cultural differences (Palfreyman, 2006).

Mobile devices give students the flexibility to follow their own interests and move at their own pace, which can increase their motivation to pursue learning opportunities (West & Vosloo, 2013). In the language classroom, mobile devices can leverage individual preferences to personalize learning and develop learner autonomy, and encourage lifelong language learning (Godwin-Jones, 2018). Consequently, a cultural shift is underway in many classrooms, away from the traditional teaching model to one in which students actively

participate in their own learning through mobile devices (Matchan, 2015). Mobile devices are contributing to a greater personal efficacy for students, with the participants in Squire and Dikkers' (2012) study able to use devices in innovative and creative ways that could not be expected ahead of time. Mobile devices amplified interest and functioned somewhat like a 'lifeline', acting as a personalized information retrieval source and orienting students positively toward independent, intuitive, interest-driven learning (Squire & Dikkers, 2012, p. 458). Turula (2017) found that tandem language learning websites have considerable potential to develop and reinforce learner autonomy, which is "very much promoted" by new tendencies in language learning and the affordances new media offers (p. 3).

2.2. 21st Century Learning Skills and language learning

21st century learning skills are the core competencies for learning and innovation that are believed to help students thrive in today's digitally and globally interconnected world (Partnership for 21st Century Skills, 2016). These are creativity and innovation, critical thinking and problem solving, communication, collaboration, plus information, media and technology skills. Mobile learning allows increased opportunities to cultivate the complex skills required to work productively with others (West & Vosloo, 2013). New technology actively promotes and complements students' 21st century learning skills (Trilling & Fadel, 2009), with mobile devices being used by learners and educators to "access information, streamline administration and facilitate learning in new and innovative ways" (West & Vosloo, 2013, p. 6).

The 20th century approach to education was focused on 'learning-about' and compiling stocks of knowledge (Brown, 2005), and an EFL context of information acquisition with motivation for learning English coming from the desire to score high in proficiency tests (McCarty, Obari, & Sato, 2017). While this is still true today in many classrooms, English is a communication device that learners should be able to use, not simply 'learn-about'. Moreover, this traditional approach to learning will not advance learners' critical thinking or autonomous learning skills (Scott, 2015). Brown (2005) suggested modern students want to create and learn at the same time, pulling content into situated and actionable use immediately bridging the gap between knowledge and knowing. Mobile devices can arguably act as a powerful tool to support these learning preferences, leading to greater learner autonomy. In the ESL context of Malaysia, researchers found that smartphone use boosted learners' 21st century learning skills to a certain degree, that students gained great satisfaction when learning using

smartphones, and that smartphone use leads one towards being a lifelong autonomous learner (Ramamuruthy & Rao, 2015).

2.3. Mobile devices and the Thai EFL context

Learning EFL in countries like Thailand can be challenging due to limited exposure to English in both daily life and in institutions (McCarty et al., 2017). In Thailand, Grammar Translation Method – a traditional method of instruction where language is taught as an academic subject rather than a means of oral communication with a focus on grammar and rote learning – is claimed to be still very popular and successful among Thai EFL teachers (Sittirak, 2016). Moreover, the tradition of teacher-directed rote learning in Thai classrooms is strengthened by Thai cultural norms which put value on status and age, and thus the innovative strategies and learner-centred approach rooted in Thailand's educational reform (Ministry of Education, 2008) and Thailand 4.0's economic model of creativity, innovation, and educational technology (Koanantakool, 2016) have not been widely accepted by teachers, students, or parents (Kantamara, Hallinger, Jatiket, 2006).

The national/cultural background of learners has often been viewed by teachers as an obstacle in promoting autonomy, in particular for 'dependent' Asian learners (Palfreyman, 2006). Thai students are more familiar with social learning (such as in the classroom setting) than individual learning, needing a lot of guidance from teachers even in higher education (Pagram & Pagram, 2006) as all ages of students have never been taught to learn by themselves, posing a serious problem that must be faced by Thai education (Malaiwong, 1997 in Pagram & Pagram, 2006). The implication that Thai students are better at group learning, especially when they have extrinsic motivation, suggests they may not be suited to autonomous learning. However, Tananuraksakul (2015) looked at autonomy in relation to online dictionary use on mobile devices among Thai EFL students and concluded that students had positive attitudes towards being self-reliant in class and improving their English aided by technology, suggesting a relationship between learner autonomy and motivation (Little, 2006 in Tananuraksakul, 2015).

There has been increasing interest in the Bring Your Own Device (BYOD) model (Rogers, 2016), where learners supply their own device to be utilized in school/class. This seems feasible in the Thai context, with mobile device use/ownership growing year on year (National Statistical Office of Thailand, 2017). 81% of Thai teenagers spend more than an hour a day on their mobile device (Kantar Millward Brown, 2017), highlighting their close connection to technology and ever-increasing skill. BYOD holds special promise in EFL

contexts such as Thailand as mobile devices can provide students with, aside from the benefits in relation to autonomy and efficacy, easy access to up-to-date materials and connect them to the real world and an authenticity of native English that is missing in classrooms led by non-native English-speaking teachers (Godwin-Jones, 2018).

3. The current study

The core competencies of 21st century learning skills and autonomy are not necessarily inherent in Thai students, due to the social learning and rote-learning context they are typically subjected to and their stereotypically shy and passive nature. Technology is said to actively promote these learning skills, so using these competencies as a framework was important to investigate the extent to which Thai students believed mobile devices can facilitate these skills. If students exhibited awareness of the affordances of mobile devices in the EFL context and a majority owned and had ability to use said devices, it could be argued that teachers move away from teacher-centered rote-learning and move towards integrating mobile devices in a more student-centered and autonomous learning environment. Thus, a survey focusing on Thai students' perspectives towards the affordances of mobile devices in the EFL context and their level of readiness to use said devices for autonomous learning was designed, with the following research questions in mind:

1. To what extent do EFL students agree that mobile devices help them to study English and provide learning satisfaction?
2. Are students prepared for and in possession of the skills necessary to use mobile devices for autonomous learning?

3.1. Methodology, setting, and participants

This study followed a quantitative design using a cross-sectional survey in the form of a questionnaire. The use of quantitative methods for data collection and analysis make the generalization of interactions made with one group possible (Williams, 2007) and the interpretation of research findings need not be viewed as a coincidence (May & Williams, 1998).

Southern Thailand was chosen as the geographical setting for this study due to seemingly no previous related research having been conducted in the area. Purposive sampling of high schools was based on the following: 1) schools of different sizes 2) schools in both urban and rural areas 3) public high schools under administration of The Office of Education Area 16 (which covers two southern Thai provinces). All schools in The Office of

Education Area 16 were invited to participate in the study, with eight of these schools eventually making up the population of this study. Four schools were in urban areas and four in rural areas, with the schools fitting into three different size categories as follows; 4 as extra-large (> 1,500 students), 2 as large (600-1,500 students), and 2 as small/medium (< 600 students) (as defined by the Office of the Basic Education Commission, 2016). These urban/rural location and school size variables were tested during data analysis to look for any significant differences in participants responses.

The population of this study from the 8 Thai high-schools were 4,037 students; 2,429 studying in Grade 8 and 1,608 studying in Grade 11 (using data from the Office of the Basic Education Commission, 2017). Grade 8 and 11 students were selected as sub-groups within the sample to represent both the lower (Grade 7-9) and upper (Grade 10-12) sections of Thai high schools. From the population of 4,037 students, using a margin of error 5% and a confidence level of 91.5%, the sample was calculated as 277 participants (made up of 199 females and 78 males).

3.2. Instrument and piloting

The 24-item questionnaire consisted of a combination of 4-point Likert-type scale questions of agreement from ‘strongly agree’ (1) to ‘strongly disagree’ (4), and 5-point Likert-type scale questions of frequency from ‘always’ (1) to ‘never’ (5). The questionnaire established participants’ demographic details and mobile device access, whether students took mobile devices to school, whether they were allowed to use them in the classroom, and how students believed mobile devices aid their learning, with questions adapted from Kashefian’s ‘Learner Autonomy Questionnaire’ (2002) and Ramamuruthy & Rao (2015). A bilingual translator translated the questionnaire from English to Thai and worked closely with the researcher during the creation and post-pilot editing of the instrument.

A Thai government high-school in the same geographical area but not under administration of the Office of Education Area 16 was chosen randomly to participate in the pilot. Ten Grade 7 and Grade 10 students were randomly chosen to complete the questionnaire and participate in an item by item discussion with the researcher and his Thai assistant, commenting on the clarity and content of items. After small alterations were made, the instrument was assessed by three experts in the field for validity before distribution.

3.3. Data collection and analysis

The final questionnaire was distributed in December 2017 to the eight participating schools. All students received the same questionnaire, and participation was voluntary and anonymous to encourage students to give honest answers without fear of consequences from the teachers who assisted with data collection. In order to understand the collected data, it was analysed using a software package used in statistical analysis of data. In the findings that follow, the mean ($\overline{x}$) and standard deviation (SD) of the Likert-type scale responses is presented. The Likert-type scale intervals are accepted as equal and are interpreted as follows:

5-point Likert-type scale intervals (showing frequency)

1.00-1.79	Always
1.80-2.59	Often
2.60-3.39	Sometimes
3.40-4.19	Rarely
4.20-5.00	Never

4-point Likert-type scale intervals (showing agreement)

1.00-1.74	Strongly Agree
1.75-2.49	Agree
2.50-3.24	Disagree
3.25-4.00	Strongly Disagree

3.4. Findings

Several items first addressed the types of mobile devices participants used and their ability to do so. Students reported owning/using (with the option to select multiple choices); 62.45% Android phone, 22.74% iPhone, 12.27% some other smart phone, 10.47% tablet/iPad, 2.17% iPod, and 6.14% other devices. Only 6.14% of participants reported not owning a mobile device and 6.50% owning a mobile phone with no connectivity to the Internet, meaning the overwhelming majority of the sample owned and used mobile devices. Participants rated their ability to use technology on a scale from 'novice' (1) to 'expert' (5) as 'proficient' ($\overline{x}$ = 3.49, SD = 0.79), interpreted using the Dreyfus model of skill acquisition (Dreyfus & Dreyfus, 1980). There were no significant differences of ability in relation to urban/rural school location or school size.

Table 1. Bringing and use of mobile devices in school/classroom

	Rural		**Urban**		**All**			
	$\overline{X}$	SD	$\overline{X}$	SD	$\overline{X}$	SD	t-test	p
I bring a mobile device to school.	3.55	1.45	1.76	1.36	2.67	1.66	10.55	0.00
My school allows me to bring my mobile device(s) to school.	3.74	1.61	1.96	1.52	2.87	1.80	9.35	0.00
My teachers allow me to use my mobile device(s) in the classroom.	4.07	1.06	3.05	1.15	3.57	1.22	7.64	0.00

Using a 5-point scale from always (1) to never (5), students from rural schools reported rarely bringing their devices to school ($\bar{x}$ = 3.55, SD = 1.45) which was significantly different ($p < 0.01$) to students in urban schools who always bring their devices to school ($\bar{x}$ = 1.76, SD = 1.36). Perhaps unsurprisingly, students reported bringing their devices to school more often than their schools permit, with schools only sometimes allowing students to bring their mobile devices to school ($\bar{x}$ = 2.87, SD = 1.80). Whilst students in rural schools claimed that they were rarely allowed to bring devices to school ($\bar{x}$ = 3.74, SD = 1.61), they reported that schools rarely/never allowed use in the classroom ($\bar{x}$ = 4.07, SD = 1.06), and though students in urban schools claimed they were almost always allowed to bring their devices to school ($\bar{x}$ = 1.96, SD = 1.52), they reported that teachers only sometimes allowed in class use ($\bar{x}$ = 3.05, SD = 1.15).

Table 2. Advantages of mobile devices in EFL setting (ranked from most agreement to least)

When studying English, the use of mobile devices in the classroom or school setting …	$\bar{X}$	SD	Agreement Level
…is faster than using a book/dictionary	1.55	0.59	Strongly Agree
…allows me to learn anywhere and at anytime.	1.56	0.59	Strongly Agree
…allows me to take charge of my own learning.	1.60	0.61	Strongly Agree
…is helpful for checking pronunciation.	1.62	0.63	Strongly Agree
…is helpful for learning words.	1.63	0.63	Strongly Agree
…improves my general learning.	1.65	0.59	Strongly Agree
…increases my technology skills.	1.69	0.65	Strongly Agree
…increases the amount of work I can do.	1.76	2.00	Agree
…makes me feel more confident.	1.78	0.64	Agree
…increases my ability to work with other students.	1.80	0.64	Agree
…improves my creativity.	1.81	0.64	Agree
…increases my communication with teachers and other students.	1.82	0.71	Agree
…increases my excitement to learn.	1.83	0.65	Agree
…increases my attention to the lesson objectives.	1.84	0.63	Agree
…increases my excitement to attend classes.	1.87	0.64	Agree

Using a 4-point scale from strongly agree (1) to strongly disagree (4), students agreed with all the statements on the affordances and learning gains possible using mobile devices, with differing levels of agreement from $\bar{x}$ 1.55 to $\bar{x}$ 1.87 and none of the items provoking significant differences of any level regarding urban/rural school location. Many of the highest responses of strong agreement were in regard to specific language learning uses mediated by mobile devices; that they are faster than using a book/dictionary ($\bar{x}$ = 1.55, SD = 0.59), helpful

for checking pronunciation ($\bar{x}$ = 1.62, SD = 0.63), and helpful for learning words ($\bar{x}$ = 1.63, SD = 0.63). Students were also in strong agreement that mobile devices allow them to learn anywhere and at any time, let them take charge of their own learning, improve their general learning, and increase their technology skills. Students agreed the least that mobile devices increase their excitement to learn ($\bar{x}$ = 1.83, SD = 0.65) and to attend classes ($\bar{x}$ = 1.87, SD = 0.64), though they were still in positive agreement, nonetheless.

4. Discussion

As the findings above highlight, students were in agreement with every aspect regarding the advantageous ways mobile devices can help them study English in the EFL classroom or school setting. In accordance with the affordances of 21st century learning skills (Partnership for 21st Century Skills, 2016) and consistent with Brown (2005) and West & Vosloo (2013), they believed mobile devices make them more creative, increase communication and collaboration with teachers and other students, increase their technology skills, and improve their general learning. Students' lowest level of agreement (though still positive) that the use of mobile devices in EFL classes would increase their excitement to attend classes and to learn may be indicative of how mobile devices have been accepted as learning aids and have lost any novelty they may have once had due to their current ubiquity. The similarly low ranking of the question regarding mobile devices increasing students' attention to lesson objectives may be indicative of the non-educational uses possible on mobile devices distracting them (as suggested by McCoy, 2016), though they still responded positively with strong agreement that mobile devices increase attention.

The findings suggest that students not only get satisfaction while learning with mobile devices, but also view them as highly beneficial aids to their language learning, in line with Ramamuruthy and Rao (2015) and Tananuraksakul (2015). The fact they exhibit awareness of these advantages suggests they are capable of autonomous learning using mobile devices in a more learner-centred environment, contrary to previous studies (Mann, 2012; Pagram & Pagram, 2006). Furthermore, the specific item in relation to autonomy, worded more simply for students as the general definition of autonomy allowing them '…to take charge of (their) own learning' is the third highest ranked positive response. Even if students are unaware of the concept of autonomy, it appears they agree with the principles and are strongly in favour of the various ways in which mobile devices can aid their learning. Moreover, the fact that Thai students are often not willing to ask direct questions in class and tend to remain quiet (Gunawan, 2016), and the non-threatening way mobile devices (in partnership with their 21st

century learning skills) can be used to solve problems suggest an increase in learning possible through autonomous use of mobile devices.

Finally, regardless of urban/rural school location, almost all of the 277 students reported having access to mobile devices and proficient ability in using them, meaning a BYOD model is possible in this context, as recommended by Godwin-Jones (2018).

5. Implications for policymakers, schools, teachers and students

Mobile devices hold huge potential as a multi-purpose tool for learning enhancement and are resulting in escalating transformations of the educational world (Alexander, 2014). This is because they help facilitate a change from old pedagogies to more student-centred learning in EFL contexts such as Thailand both at policy and practical levels. Students in this study claimed that teachers rarely allow them to use mobile devices in class. As long as schools and EFL teachers are preventing in-school or in-class use, they are obstructing the full potential of students using mobile devices to facilitate learning. Technology such as mobile devices are now highly effective instruments, if appropriately used and supported, which Thai learners are already more than competent in. Thus, it is encouraged that teachers move away from the old pedagogies (such as Grammar Translation Method) to a method where students are encouraged to learn for themselves using these technologies. Ten years ago, Prensky (2008) claimed that technology's goal should be to support autonomous learning. Today, not only has technology developed substantially but also EFL learners, who now seem able to be independent and autonomous if given the chance. Thus, as students in this study had access/ability to use mobile devices and believed they can increase learning and learner satisfaction, it is recommended that rather than prohibiting mobile devices schools and policymakers should consider the students' voice and construct policies which promote the pedagogical use of mobile devices in the EFL environment and allow students to complement their learning aided by their own devices. Furthermore, where mobile devices are deemed appropriate learning aids, it is essential teachers are given adequate training on how to manage and utilise them, as the effectiveness of autonomous learning facilitated by mobile devices and students' 21st century learning skills will depend on the scaffolding provided to students and the learning activities they encounter (Pheeraphan, 2013).

6. Final conclusions, limitations and recommendations

This study explored the extent to which Thai EFL high-school students believed mobile devices increase learning and learner satisfaction in the school environment, and whether they

are ready to use these devices for autonomous learning. It is concluded that students had access and ability to use mobile devices, with students either agreeing or strongly agreeing that mobile devices do increase their learning potential and satisfaction, suggesting they help to foster and aid learner autonomy. As it appeared students are capable of a more learner-centred environment facilitated by mobile devices, recommendations were made for mobile devices to not only be permitted in the school environment but actively promoted as an aid to EFL learning.

Whilst attempts were made to make this study as relatable to the general EFL context as possible (by choosing schools of different sizes in different urban/rural areas across two provinces and two grades of students), it cannot be assumed that the results would be the same in other parts of Thailand or the world. It is therefore recommended similar studies are conducted in other areas, especially the more extreme urban and rural areas where access to mobile devices may be substantially different to this studies' research setting. The addition of qualitative interviews or focus groups could have enriched the data, with the benefits of mixed method methodology being well known (Creswell, Clark, Gutmann, & Hanson, 2003). More tangible experimental studies such as a survey for students to complete after each class to gauge the utilisation of their skills and satisfaction either aided with/without mobile devices, or an experimental/control group study where the experimental group are given explicit training on how to be effective autonomous learners, are also recommended. Finally, as almost all students reported access to mobile devices regardless of their school's location, it should be investigated why there were significantly different policies regarding the use of mobile devices in school and the classroom between urban and rural schools.

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References

Alexander, B. (2004). Going nomadic: Mobile learning in higher education. *EDUCAUSE Review*, 39, 28-35.

Beland, L. P., & Murphy, R. (2015). In brief... Phone home: should mobiles be banned in schools? *CentrePiece Summer* 2015, 10-11.

Brown, J. S. (2005). New Learning Environments for the 21st Century. Retrieved 20 April 2017 from www.johnseelybrown.com/newlearning.pdf

Cell phone-free classroom good for students, teacher says (2017, July 22). *Thai PBS*. Retrieved 21 May 2018 from http://englishnews.thaipbs.or.th

Creswell, J. W., Clark. P., V. L., Gutmann, M. L., & Hanson, W. E. (2003). Advanced mixed methods research designs. In A. Tashakkori and C. Teddlie (Eds.), *Handbook of Mixed Methods in Social and Behavioural Research* (pp. 209-240). Thousand Oaks, CA: Sage.

Dreyfus, S. E., & Dreyfus, H. L. (1980). *A Five-Stage Model of the Mental Activities Involved in Directed Skill Acquisition.* Washington, DC: Storming Media.

EF EPI (2017). Education First English Proficiency Index, Ef.edu. Retrieved 18 April 2017 from http://www.ef.edu/epi/

Godwin-Jones, R. (2018). *Using Mobile Devices in the Language Classroom*: Part of the Cambridge Papers in ELT series. Cambridge: Cambridge University Press.

Gunawan, J. (2016). Understanding culture in higher education in Thailand. *Education for Health*, *29*(2), 160-161.

Holec, H. (1981). *Autonomy and Foreign Language Learning*. Oxford/New York: Pergamon Press. (First Published 1979, Council of Europe).

Kantamara, P., Hallinger, P., & Jatiket, M. (2006). Scaling-up educational reform in Thailand: Context, collaboration, networks, and change. *Planning & Changing*, *37*(1), 5-23.

Kantar Millward Brown. (2017) AdReaction Global Consumer Survey 2017. Retrieved on 23 March 2018 from http://www.millwardbrown.com/adreaction/integration/

Kashefian, S. N. (2002). *An Investigation into College EFL Learners' Beliefs Demonstrating Their Predispositions towards Learner Autonomy*. Unpublished master's thesis. Shiraz, Iran: Shiraz University.

Kaur, N. (2013). The need for autonomous vocabulary learners in the Malaysian ESL classroom. *GEMA Online Journal of Language Studies*, *13*(3), 7-16.

Koanantakool, T. (2016). Digital Park for SMEs - Digital Thailand 2016 May 28, 2016 at QSNCC. Retrieved 12 April 2017 from http://www.digitalthailand.in.th/drive/DigitalInnovation/Thaweesak%20Koanantakool-%20Digital%20Park%20For%20SME.pdf

Mann, V. J. (2012). *Cross-Cultural Teaching: Experience of American Teachers in Thai Higher Education*. Dissertation submitted to the graduate division of the University of Hawaii at Manoa, Doctor of Philosophy in Education, UMI Number: 3520654

Matchan, L. (2015). Schools seek balance for cellphones in class. *The Boston Globe*. Retrieved 14 April 2017 from https://www.bostonglobe.com/lifestyle/style/2015/06/15/cellphones-school-teaching-tool-distraction/OzHjXyL7VVIXV1AEkeYTiJ/story.html

May, T. & Williams, M. (1998). *Knowing the Social World*. Buckingham: Open University Press.

McCarty, S., Sato, T., & Obari, H. S. (2017). Implementing mobile language learning technologies in Japan, *SpringerBriefs in Education*, DOI 10.1007/978-981-10-2451-1_2

McCoy, B. R. (2016). Digital distractions in the classroom phase II: Student classroom use of digital devices for non-class related purposes. *Faculty Publications, College of Journalism & Mass Communications. Paper 90*, 1-43.

Ministry of Education. (2008). *Thailand Basic Education Core Curriculum.* Retrieved on 9 March 2018 from http://www.act.ac.th/document/1741.pdf

Nankani, S., & Ojalvo, H. E. (2010). Going mobile: Debating and using cell phones in school. *The New York Times*. Retrieved 4 April 2017 from https://learning.blogs.nytimes.com/2010/04/19/going-mobile-debating-and-using-cellphones-in-school

National Statistical Office of Thailand. (2017). *The 2016 Household Survey on the Use of Information and Communication Technology*. Retrieved 4 April 2017 from http://www.emarketer.com/Chart/Smartphone-vs-Total-Mobile-Phone-User-Penetration-Thailand-by-Region-March-2016-of-population/203960

Office of the Basic Education Commission. (2017). *Management Information System: Secondary Education Service Area 16*. Retrieved 5 March 2018 from http://data.bopp-obec.info/emis/index_area.php?Area_CODE=101716

Pagram, P. & Pagram, J. (2006). Issues in e-learning: A Thai case study. *The Electronic Journal of Information Systems in Developing Countries*, *26*(6), 1-8.

Palfreyman, D. (2006). Social context and resources for language learning. *System*, *34*(3), 352-370.

Partnership for 21st Century Skills (2016). Framework for 21st Century Learning 01/16. Retrieved 9 April 2017 from http://www.p21.org/storage/documents/docs/P21_framework_0816.pdf

Pheeraphan, N. (2013). Enhancement of the 21st Century Skills for Thai higher education by integration of ICT in classroom. *Procedia - Social and Behavioral Sciences, 103*, 365-373.

Prensky, M. (2008). The role of technology in teaching and the classroom. *Educational Technology, 48*(6). Retrieved 4 January 2019 from http://www.marcprensky.com/writing/Prensky-The_Role_of_Technology-ET-11-12-08.pdf

Ramamuruthy, V., & Rao, S. (2015). Smartphones promote autonomous learning in ESL classrooms. *Malaysian Online Journal of Educational Technology*, *3*(4), 23-35.

Rogers, K. (2016). *Bring Your Own Device: Engaging Students and Transforming Instruction.* Bloomington, IN: Solution Tree Press.

Scott, C. L. (2015). *The Futures of Learning 3: What Kind of Pedagogies for the 21st Century*? Paris: UNESCO (Education Research and Foresight).

Sittirak, N. (2016). Grammar-Translation Method in an EFL class in Thailand: A glance at an English song's lyrics. *Journal of Education Thaksin University*, *15*(2), 30-47.

Squire, K., & Dikkers, S. (2012). Amplifications of learning: Use of mobile media devices among youth. *Convergence: The International Journal of Research into New Media Technologies*, *18*(4), 445-464.

Stockwell, G., & Hubbard, P. (2013). *Some Emerging Principles for Mobile-assisted Language Learning*. Monterey, CA: The International Research Foundation for English Language Education. Retrieved 8 April 2017 from http://www.tirfonline.org/english-in-the-workforce/mobile-assisted-language-learning

Tananuraksakul, N. (2015). The effect of online dictionaries usage on EFL undergraduate students' autonomy. *Teaching English with Technology*, *15*(4), 3-15.

Thomas, K., & Muñoz, M. A. (2016). Hold the phone! High school students' perceptions of mobile phone integration in the classroom. *American Secondary Education*, *44*(3), 19-37.

Thomson, A. (2009). Lecturers see the benefits of mobiles in classrooms. *The Times Educational Supplement, 4832*. Retrieved 4 April 2017 from https://www.tes.com/news/tes-archive/tes-publication/lecturers-see-benefits-mobiles-classrooms

Trilling, B., & Fadel, C. (2013). *21st Century Skills: Learning for Life in Our Times*. San Francisco: Jossey-Bass.

Turula, A. (2017). Learner autonomy as a social construct in the context of Italki. *Teaching English with Technology*, *17*(2), 3-28.

West, M., & Vosloo, S. (2013). *Policy Guidelines for Mobile Learning*. Paris: UNESCO. Retrieved April 12 2017 from http://unesdoc.unesco.org/images/0021/002196/219641E.pdf

Williams, C. (2007). Research methods. *Journal of Business & Economic Research, 5*(3), 65-72.

COMPUTER-BASED (CBT) VS. PAPER-BASED (PBT) TESTING: MODE EFFECT, RELATIONSHIP BETWEEN COMPUTER FAMILIARITY, ATTITUDES, AVERSION AND MODE PREFERENCE WITH CBT TEST SCORES IN AN ASIAN PRIVATE EFL CONTEXT

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Abstract

The current study was conducted to investigate whether test scores of Iranian English as Foreign Language (EFL) learners were equivalent across CBT and PBT modes, with 58 intermediate learners studying at a private language academy located in Behshahr city in northern Iran. Moreover, test takers' computer familiarity, attitudes, aversion, and testing mode preference were regarded as the potential issues to influence CBT test scores. Data were collected using CBT and PBT versions of Nelson Proficiency Multiple-Choice Tests and Computer Aversion, Attitudes, and Familiarity Index (CAAFI) questionnaire as well as a simple testing administration mode preference question. The participants produced similar scores across modes, although they insignificantly outperformed on the CBT version. Additionally, analysis of the overall scores on the CAAFI and mode preference question obtained from CBT testing session indicated no statistically significant correlation between computer familiarity, attitude, aversion, and mode preference variables and test takers' CBT scores. The qualitative findings of this study obtained by semi-structured interview revealed that most of the participants showed high preference and more advantages for CBT over PBT to rationalize why they preferred this mode of testing.

Keywords: Computer-Based Testing; testing administration mode; computer familiarity, attitudes and aversion; testing administration mode preference

1. Introduction

In the last decades, computer technology and related technological tools have been extensively utilized in language testing to analyze scores and results quickly (Boeve et al.,

2015; Laborda & Penalver, 2018). According to Daniels and Gierl (2017), computer-based testing (CBT) brings many benefits in educational contexts. Students are provided with positive interactions or communication opportunities and can receive immediate feedback (Daniels and Gierl, 2017). Moreover, it is cost-effective, and the availability of powerful computers in educational contexts make computer-based test delivery both feasible and attractive (Boeve et al., 2015). CBT also provides test takers with the opportunity of taking their tests at any time and place. The introduction of IBM model 805 scoring machine in Western countries was recorded as the first use of the computer in language testing in 1935; yet, its prevalence in educational assessment domain is rather slow (Boeve et al., 2015) especially in Asian developing countries. The causes shall be attributed to some barriers such as limited access to computers and concern of the effects of the transition from paper to computer on test takers' scores that is commonly defined as "testing administration mode" effect.

Testing administration mode effect is the main concern of Asian researchers from the countries such as Iran, Turkey, China, Malaysia, Saudi Arabia, and Jordan when they begin to implement CBT along with PBT in their educational system or consider CBT to replace PBT. Then, they investigate whether test takers' scores are equivalent across two modes (e.g., Chen et al., 2014; Khoshsima & Hashemi Toroujeni, 2017a; Alakyleh, 2018; Yurdabakan and Uzunkavak, 2012). Equivalency or interchangeability of scores from CBT and PBT has been a controversial issue during the last decade (Sangmeister, 2017). How changing the administration mode can affect students' test performance is a crucial question when considering changing from PBT to CBT. Furthermore, the interaction between individual differences (e.g., prior computer familiarity, attitudes, and aversion) and CBT performance should be investigated in equivalence studies in which the score equivalency and reliability are examined to replace CBT with PBT.

Since growing concerns over the impact of computer familiarity, attitudes, aversion and testing mode preference on EFL attainments of the private sector from CBT exist, the current research aimed to investigate the equivalency of CBT and PBT and address testing administration mode effect on test takers' scores by discovering similarities or differences between the mean scores of CBT and PBT versions of a test. It was conducted to help to accelerate the move to CBT due to all its benefits mentioned.

2. Literature review

As the relevant literature is reviewed, the empirical evidence shows that two identical CBT and PBT (Paper-Based Testing) do not always result in the same scores. Hence, these conclusions are referred to as "testing mode effect": the effects of the transition from paper to computer on performance in two similar or equivalent tests. International Guidelines on CBT state that when a test is implemented in two modes and two sets of similar scores are obtained, the scores are considered equivalent and reliable (ITC, 2016). The equivalent test scores established for two CBT and PBT modes (AERA, 2014) demonstrate that computer-based testing is valid and reliable. Based on the classical True-Score Theory, the same test implemented in two modes, i.e., CBT and PBT, should result in equivalent or identical test scores. The transition from paper to computer took place long ago in Westernized or heavily Westernized countries, but in many countries such as Asian developing countries, it has not happened yet because computer and internet access is limited. Then, developing CBTs must be done with utmost care, due to limited access to the internet in Asian developing countries. Mangen et al. (2013) investigated the impact of test version (CBT and PBT) on test achievements of 72 students. Their findings showed a great difference between CBT and PBT performances. The students gained significantly higher scores in CBT format of the test (Mangen et al., 2013). In one of the recent equivalence studies done by Washburn et al. (2017), the performance and perception of CBT vs. PBT were evaluated concerning the transitioning from traditional paper-based to CBT. The findings of the study showed that the students' scores for the CBT version of the test were higher than those obtained from the PBT version (Washburn et al., 2017). Moreover, it is recommended to eliminate the possible effects of moderator variables such as computer familiarity (Jeong, 2014), attitudes toward the use of computer (Dammas, 2016), computer aversion (Balogun & Olanrewaju, 2016) and mode preference (Boeve et al, 2015; Mizrachi, 2015) on test scores.

2.1. Computer familiarity and attitude

There is a difference in the test takers' familiarity with the computer. It seems that EFL learners who are frequent users of computers and the internet and are more familiar with computers attain dramatic educational gains on CBT. Kirsch, Jamieson, Taylor, and Eignor's (1998) research findings on computer experience and CBT performance on a TOEFL test (after implementation of online familiarization training) showed no significant relationship between prior computer use of test takers and their performance on the computerized test.

Computer attitudes or prior attitudes toward the use of computer play a crucial role in implementing CBT successfully. Some studies indicate that test takers have positive attitudes toward CBT (Al-Amri, 2009). In another study by Al-Amri (2009) using some sections of the CAS questionnaire to study learners' attitudes toward computer use, he reported that students showed a high preference for CBT, although no relationship between learners' attitudes and their performance on CBT was detected. Youdbakan and Uzunkavak (2012) reported a study investigating learners' attitudes toward computer and CBT among 784 Turkish primary school learners in private and state schools using a researcher-constructed attitude scale.

However, even though, based on conclusive evidence of a higher education context, Khoshsima & Hashemi Toroujeni (2017b) claimed that moderator variables such as computer attitudes and mode preference are not considered factors that might affect students' performance on CBT, many Asian test users and test developers are not optimistic about the generalizability of the findings to the private EFL sector.

2.2. Computer aversion and testing mode preference

McDonald (2002) reported that computer aversion is an unpleasant feeling of fear and uneasiness experienced by a student when s/he is working with a computer. According to McDonald (2002), the actual effects of computer aversion (sometimes called computer anxiety) on test takers' performance on CBT is not clear and conclusively definite. However, test takers who have a strong aversion toward the use of computer experience achieve low performance in CBT (Balogun & Olanrewaju, 2016).

To examine the relationship between test takers' preference and their test scores, the researchers use either preference scale questionnaire or interviews to ask which testing mode of administration they prefer (e.g., Al-Amri, 2009; Corlett-Rivera & Hackman, 2014; Mizrachi, 2015). In a study done by Al-Amri (2009), although test takers preferred to take CBT, their test performance was better on PBT.

In the current study, individual differences or characteristics are considered of great importance and it was hypothesized that there was no statistically significant difference between the mean of two sets of scores obtained from CBT and PBT. Also, the correlations between computer familiarity, computer attitudes, computer aversion and testing mode preference with test performance were also investigated based on the hypotheses that there was no statistically significant impact of the participants' level of computer familiarity, attitudes, aversion and preference toward computers on their test performance using CBT. Then, considering the above discussion, it is necessary to investigate testing administration

mode effect, the relationship of computer familiarity, attitudes, and aversion toward computers with the performance of test takers on their CBT test scores. The results of the study could inform testing practitioners when designing testing in private EFL contexts.

3. The current study

3.1. Objectives of the study

Since evaluating the equivalency or comparability of PBT and CBT tests is crucial before introducing CBT into any context, the following research questions were investigated:

RQ1. Is there a significant difference in test scores for CBT and PBT testing modes?

RQ2**.** Do participants' computer familiarity, computer attitude, computer aversion, and testing mode preference affect test scores using CBT?

Then, to investigate the problems raised by the study the following null hypotheses will be addressed.

H0 1: There is no statistically significant difference in CBT and PPT test scores among Adrina Language Academy (ALA) EFL Learners.

H02: Participants' computer familiarity, computer attitude, computer aversion, and testing mode preference do not affect test scores using CBT.

3.2. Participants

This study was carried out in autumn 2017 at the Adrina Language Academy (ALA) located in Behshahr city, in northern Iran, Mazandaran province. 108 English as Foreign Language (EFL) adult learners who were taking the General English Courses of different levels at ALA took the TOEFL general proficiency test (Phillips, 2001) (PBT Complete Test/p.515-538) as a reliable and valid index of general English proficiency for organizing a homogenous testing group in Summer 2017. Based on the general English language proficiency conversion table, 58 intermediate EFL learners (the overall TOEFL score ranged from 477 to 510) were selected as homogenous ones to participate in the main investigation. The 58 participants consisted of 30 males (51.72%) and 28 females (48.28%). The age range of the 58 students was between 18 to 34 years with a mean of 23.9 years.

Students who were participating in the study were given a consent form to sign. The subjects were told that their responses to tests and questionnaire would be anonymous and that the results would be used for research purposes only.

3.3. Design, instrumentation and procedure

The present study consisted of three sub-studies. The first study used two CBT, and PBT versions of two equivalent tests was to examine the effect of testing administration mode on test scores to answer research question one. The second study used a questionnaire and preference question was designed to investigate the relationship of computer familiarity, attitude, aversion and mode preference with CBT test scores to answer Research Question 2. The third study consisted of the interview as a qualitative instrument to inquire about participants' testing administration mode preference, attitudes toward PPT and CBT, development of positive or negative attitudes and their opinions about two test versions. The learners were assigned to one testing group based on *common person design* (repeated measures or pre and post-test design).

The quantitative data collected from the questionnaire could not access the unexpected reasons why test takers had particular perceptions of various aspects of the tests (CBT and PBT) they took. Hence, subsequent interview (qualitative data) was used to allow test takers to explain their reasons in their voice (Research Question 2 related to attitudes towards the use of the computer in CBT test condition and testing mode preference).

The multiple choice achievement tests used in the PBT and CBT versions were from the Nelson Proficiency Tests (Test 200A and Test 200B for intermediate level students) selected from Nelson English Language Tests by Fowler and Coe (1976). The battery consists of 40 separate tests, 4 tests of which are equivalent in difficulty at each of 10 levels from beginners to advanced. Financial considerations and practical ones discouraged us from adopting a newer version which may not be necessarily different (as there is a need for doing a pilot study in advance). These two equivalent tests were used to mitigate possible testing effects caused by using the same test on two occasions. Test 200A was used as the PBT version of the test and Test 200B as the equivalent test was converted into the CBT version. These standard tests included fifty multiple-choice items to assess the grammatical knowledge and structural progression of the participants. The 40 Nelson English Language Tests were designed independently and are appropriate for ten different levels of language proficiency. The tests were designed for a passing mark of 30 (60%).

To convert the PBT version of the test (Test 200B) into its CBT counterpart, a professional web-based testing service provided by Classmarker.com was used. The identical tests were used in both PBT and CBT for pairwise comparison because this design needs a smaller research sample (Sangmeister, 2017). In CBT session, each test taker was given a registration code to activate his/her testing account and to enter the testing environment. Each

test taker was given a computer and s/he should answer the questions appearing on the screen one by one. The clear and straightforward question: *Which one would you prefer? Taking the test on paper – no difference – on computer screen* appeared on the screen at the end of the CBT test to get correct feedback on the correlation of preference towards administration mode with test takers scores.

Another research instrument was used to measure computer aversion, computer attitudes, and computer familiarity. The questionnaire was based on the revised version of Computer Aversion, Attitudes, and Familiarity Index (CAAFI) by Schulenberg and Melton (2008). According to Hashemi (2016), the CAAFI is a powerful instrument to gain a good understanding of these constructs. This 30-item questionnaire was composed of three factors: factor 1 was related to the computer familiarity construct with items 3, 13, 14, 16, 20-23, 27, and 30, factor 2 was related to the computer attitudes construct with items 1, 2, 4, 5, 8, 11, 18, 19, 28, and 29, and factor 3 was related to the computer aversion construct with items 6, 7, 9, 10, 12, 15, 17, and 24-26. The factor structure of CAAFI had been confirmed using confirmatory factor analysis procedure and analysis of internal consistency reliability coefficients (Schulenberg & Melton, 2008). In addition to the exploratory and confirmatory factor analysis, enough details on the primary development of this questionnaire were provided by Schulenberg (2002), Schulenberg, Yutrzenka and Gkhm (2006) and Schulenberg and Melton (2008). The items had a seven-point scale from -3 (absolutely false) to 3 (absolutely true) to increase the response rate. Zero, in this range, shows a neutral response toward an individual statement. In this questionnaire, some of the statements are negatively worded that necessitate reverse scoring. The negatively worded items 6, 8, 9, 15, 17, 24, 25, and 26 should be reverse scored. For each factor, the items were summed, and higher positive scores suggested less computer anxiety, more positive or favorable attitudes toward the computer and more experience and familiarity with computers.

Based on the descriptive data, computer familiarity factor had a mean of 14.39 (SD=8.54), and α of .846. Computer attitudes had a mean of 6.50 (SD=8.13) and α of .664, and Computer aversion had a mean of 9.05 (SD=10.55) and α of .855. The CAAFI had an overall α of .906 and a mean of 29.94 (SD=24.44). Therefore, the internal consistency reliability and descriptive results obtained in the present study were comparable with the findings provided by Schulenberg, Yutrzenka and Gohm (2006), and Schulenberg and Melton (2008). The means for the three factors in the CAAFI questionnaire were obtained by summing the responses of respondents on ten items (Likert-rating scale of 7) measuring each factor. The questionnaire also collected data on the participants' demographic information

such as name, age, and level of education. Cronbach's α reliability analysis was performed as a measure of internal consistency for the CAAFI questionnaire in this study, and a high-reliability coefficient of α=.906 was achieved for the 30 items CAAFI index.

A set of predetermined open-ended questions (Appendix A) were asked to 26 randomly selected participants as a semi-structured interview to inquire about their testing administration mode preference, attitudes toward PPT and CBT, development of positive or negative attitudes and their opinions about the features of two test versions. The researchers were interested in using a semi-structured interview because questions could be prepared in advance and the interviewees could express themselves easily in the ways they preferred. The questions of the interview were developed by the researchers and then content was analyzed by two experts of TEFL. This qualitative method was used to support the quantitative research data.

Both quantitative and qualitative methods were used to collect data to answer the research questions of the study and confirm or reject the research null hypotheses. After the TOEFL placement test, 58 students at the intermediate level were chosen as the sample. The participants took the Nelson Test 200A as the PBT version of the test on the first testing occasion (50 questions in 50 minutes). To eliminate testing effects, after a three-day interval, the same participants took the equivalent Nelson Test 200B in CBT version (50 questions in 50 minutes). After completing the CBT, the testing mode preference question appeared on the screen. Then, the CAAFI questionnaire was distributed to the participants. Also, 26 randomly selected participants of the study were interviewed for 7-10 minutes after the CBT session.

4. Results

Kolmogorov-Smirnov test indicated that PBT scores and CBT scores significantly deviated from normality (Table 1), then, the nonparametric Wilcoxon signed-rank test equivalent of the paired samples t-test was chosen to compare the test scores on the PBT and CBT versions.

Table 1. Results of Normality tests for PBT and CBT versions

One-Sample Kolmogorov-Smirnov Test

		PBT	CBT
N		58	58
	Mean	43.72	45.46
	Std. Deviation	7.78	4.38
Most Extreme Differences	Absolute	.186	.184
	Positive	.141	.151
	Negative	-.186	-.184
Kolmogorov-Smirnov Z		1.41	1.40
Asymp. Sig. (2-tailed)		.036	.040

Wilcoxon signed-rank test was used to measure changes in the ranked positions of PBT and CBT scores for the 58 participants and provide the differences in ranked data between the CBT and PBT test scores including the mean rank and sum of ranks. As evidenced in Table 2, 25 participants received higher scores in PBT session than in CBT (negative ranks showed the ranks for which the PBT scores were higher than the CBT scores), and 29 participants received higher scores in CBT session than in PBT. Another four participants experienced no difference in their scores in the two test conditions.

Table 2. Rank-based descriptive statistics of testing sessions

Ranks

		N	Mean Rank	Sum of Ranks
CBT - PBT	Negative Ranks	25[a]	24.42	610.50
	Positive Ranks	29[b]	30.16	874.50
	Ties	4[c]		
	Total	58		

a. CBT < PBT / b. CBT > PBT / c. CBT = PBT

The results of Wilcoxon signed-rank test indicated that test scores were not significantly different for the two test modes (CBT vs. PBT) (Z = -1.137, p = 0.255). Since the PBT and CBT test scores (Table 1) and the scores for computer attitudes, computer aversion and computer familiarity (Table 3) were not normally distributed, Spearman's rank-order correlation analyses were used to investigate the relationships between computer familiarity, attitudes, aversion, and CBT test scores.

Table 3. Results of normality tests for each factor of CAAFI

One-Sample Kolmogorov-Smirnov Test

		Computer familiarity	Computer attitudes	Computer aversion
n		58	58	58
	Mean	14.39	6.5	9.05
	Std. Deviation	8.54	8.13	10.55
Most Extreme Differences	Absolute	.28	.25	.24
	Positive	.28	.25	.24
	Negative	-.22	-.17	-.14
Kolmogorov-Smirnov Z		2.15	1.93	1.85
Asymp. Sig. (2-tailed)		.00	.00	.00

Spearman's rank-order correlation results showed that the null hypothesis was not rejected and there was no statistically significant correlation between CBT test scores and computer familiarity (r (56) =.182, p=.172). The results of Spearman's rank-order correlation test also showed that there was no statistically significant relationship between computer

attitudes and CBT test scores (r (56) =.094, p=.483) and the null hypothesis was not rejected. However, there was a statistically significant relationship between computer aversion and CBT test scores (r (56) =.287, p=.029). The null hypothesis was rejected. As can be concluded from the results, there was no significant correlation between computer familiarity and attitudes toward computer and CBT test scores. Findings of the current study on the relationship between computer familiarity and CBT test scores were in line with the findings of studies such as Jeong (2014), who found no relationship between the two variables.

Spearman's rank-order correlation analysis for 58 test takers' testing mode preference and their CBT performance showed no statistically significant correlation (r (56) =.203, p=.127). Then, the null hypothesis for testing mode preference was confirmed based on the evidence that this variable was not a statistically significant predictor of CBT scores. Additionally, there was no statistically significant correlation between testing mode preference and PBT test scores (r (56) =-.069, p=.607).

Since the data normality assumption of dependent variable was violated, and the scores came from the same test takers, Wilcoxon signed-rank test was used to compare both PBT and CBT mean rank of three mode preference groups (coded as 1=PBT, 2=No-Difference, 3=CBT based on the testing mode preference question). The comparison was made to examine the effect of testing mode preference on their performance and whether test takers outperformed in their preferred testing mode session. Out of 58 test takers who answered the preference question, 32 preferred taking CBT (55%), 18 preferred taking PBT (31%). 8 (14%) didn't mind taking the test on either mode.

Wilcoxon signed-rank test demonstrated that the median CBT ranks for PBT mode preference group, Mdn=47, were not statistically significantly higher than the median PBT ranks, Mdn=48, Z=-.491, P=.624. It meant that although those test takers who preferred to take the test in the PBT version performed slightly better in their PBT session, there was no statistically significant difference between their PBT and CBT test scores. The same results were attained for the other two No-Difference, and CBT mode preference groups and the median CBT test ranks of two preference groups were not statistically significantly higher than the median PBT test ranks; PBT Mdn=47 vs CBT Mdn=50, Z=-1.633, p=102 and PBT Mdn=45 vs CBT Mdn=45, Z=-.405, p=.686 for No-Difference and CBT mode preference groups, respectively. The results show that 55 % of the test takers who preferred taking the test on CBT (CBT mode preference group) did the same on two PBT and CBT versions of the tests. It was concluded that although the test takers preferred to take the CBT version of the

test, they did not outperform in their preferred mode and there was no statistically significant difference in their test scores received from two PBT and CBT versions.

Subsequently, a semi-structured interview was conducted and responses from the open-ended questions were transcribed. Content analysis was conducted on the transcribed data by identifying the main concepts using thematic analysis. Based on the results and findings from the interview data, of the 26 participants interviewed, 18 (69%) favored CBT and 8 (31%) preferred PBT. They were then asked about the features of two test versions they preferred and didn't prefer, about their testing administration mode preference before implementing PBT and after administering CBT as well as their reasons behind their preferences and mode preference change (in the case of changing mode preference).

Those who advocated CBT mentioned fifteen positive features. All the 18 interviewees who favored CBT stated that they could easily read the test items on a computer screen, choose and change answers, and obtain immediate feedback or test scoring reports. Eleven (61%) of the 18 interviewees stated that they liked the CBT testing environment because they could read one question on each page, they should click to highlight the correct answer, and they were able to see the time on the corner of the screen. Eight (45%] of CBT advocators found the CBT version to be a less fatiguing and more enjoyable test environment due to certain elements of the screen such as colors, graphics, and text together. Furthermore, nine (50%), sixteen (90%], and twelve (66%] of these 18 interviewees were of the opinions that the CBT was a more comfortable and faster-testing mode, with fewer response recognition errors. They believed that they could recognize the correct answer among the options easily. Out of these 18 interviewees who favored CBT, four (22%] of them stated that the CBT needed less time to review the question items and modify answers, and it took less time to respond to the questions. Fourteen (78%], eleven (61%], and ten (55%] of these interviewees also commented on enhanced security, faster decision making as a result of immediate scoring and score reporting, and causing less stress and anxiety of CBT, respectively. Furthermore, five (30%] of them commented on the accuracy in CBT while sixteen (90%] felt that CBT eliminated the human error in scoring and improved the quality and reliability of the test. CBT advocators stated that they didn't prefer PBT because it was boring but taking the test on the computer was like a game.

Out of the 26 interviewees, twenty-three (88%) asserted that they did not have to use their hands to write answers or check the correct answer on the paper. They stated that this feature makes taking CBT easier. Although four (15%] of the interviewees reported that they had a problem with the mouse when it stopped working for some seconds, they still liked the

CBT version. However, eight interviewees did not prefer CBT over PBT. All the eight respondents (100%) who preferred to take PBT stated that they could write down or underline some key-words or phrases for future returning. In PBT, they could put a bullet next to the questions they did not know their answers for future review. Five (62%) claimed that CBT required more technical knowledge. Six (75%] also expressed their concern of system breaking down and crash. They were afraid of computers not working as they expect during the test. Seven of these eight interviewees felt that reviewing the answers in CBT was time-consuming (87%). Three (37%] of PBT advocators commented on the challenges caused by scrolling horizontally or vertically on some long pages such as score reporting page. Concerning the testing mode preference change, nine of the interviewees (35%] stated that they changed their preference in favor of CBT after taking this version. They declared that they had never taken CBT test and they did not mind taking the test in either mode, but after benefiting from CBT in the second testing session, they had positive attitudes toward it and preferred taking this version in the future.

Then, the number of test takers who opted for CBT increased by 27% after taking the test. According to the results, it was concluded that the number of participants who preferred PBT or did not mind taking the test in either mode before taking CBT changed in favor of the test takers who chose CBT as their preferred testing mode preference after taking CBT. Surprisingly, all of them stated that they became positive toward CBT due to receiving immediate feedback and test results and allowing them to see if they passed the exam.

5. Discussion

The fact that no statistically significant difference in test scores for the participants of this study who took the PBT and CBT equivalent tests existed suggests that the two modes can represent grammatical competence validly and reliably, and CBT does not have a significant effect on test takers' scores.

Based on the findings, the concern of the differential CBT test scores due to prior familiarity with a computer is eliminated. It may be claimed that as the learners of the current decade are fully familiar with a computer through playing games or using the internet and communicating via different kinds of messengers, computer familiarity is losing its importance and relationship with CBT performance. The lack of variance in PBT and CBT scores in the present study and some other studies may be the effect of generational difference; the present generation is more familiar with technology and has more exposure to it. No correlation between attitudes toward the use of computer and CBT scores suggests that

this variable may not be considered as a source of variance in PBT and CBT performances. Findings of the current study were consistent with the results reported in Al-Amri (2009), who found no statistically significant correlation between computer attitudes and CBT performance and concluded that test takers' attitudes (either positive or negative) did not affect their CBT performance.

According to the observational results of the study done by Labora and Penalver, test aversion still seems to be a critical issue, in spite of the new generation's familiarity with new technologies like a computer (Laborda & Penalver, 2018). Mastuti and Handoyo (2017) stated that aversion towards the implementation of CBT is still well worthy of investigation. The current study showed a weak positive relationship between computer aversion and CBT test scores. As higher scores on computer aversion items indicated less computer aversion, the positive correlation between computer aversion and CBT test scores indicated that less anxiety toward the use of the computer would lead to higher scores on CBT or vice versa. Also, Spearman's rank-order correlation test was run to look at the relationship of testing mode preference and CBT scores. The results indicated no association between mode preference and CBT score. The comparison of PBT and CBT scores of mode preference groups (those who preferred the PBT version and those who preferred the CBT version) revealed that in spite of the preference for PBT and CBT versions, there was no significant difference between the scores obtained from each test version and test takers did not perform better in their preferred mode. Those participants who preferred taking PBT did the same in their CBT exam.

Additionally, those who preferred taking the CBT test did not outperform the PBT ones in their exam. Accordingly, based on the Wilcoxon signed-rank test, no statistically significant difference was found between the PBT and CBT performance of preference groups and their preferred test mode performances. Furthermore, those who did not mind taking the test in either mode did better in CBT, but the difference was not statistically significant. The results suggest that the mode preference and eagerness of test takers do not validate a CBT test, and the standard guidelines for establishing equivalence between PBT and CBT should be followed.

As evidenced by the quantitative part of the study, most test takers preferred to take the CBT version of the test. Among the interviewees, 69% of them declared that they preferred to take the test in the CBT version. The qualitative findings supported the quantitative results.

6. Conclusions, recommendations and limitations

Based on the findings, it is argued that teachers and test developers may invest in spreading CBT through private EFL contexts and motivate learners to take it. Language teachers should give their learners more opportunities to begin working with computer and CBT version in classes and keep in mind that CBT may be especially appealing to the present generation of learners who are growing up with technology and computers.

Since the research indicated that students feel quite comfortable with taking the CBT version of the test and prefer this kind of testing (Khoshsima & Hashemi Toroujeni, 2017h), it can be used as an alternative assessment instrument in private EFL contexts. However, the findings of the current study cannot be generalized to all contexts and participants with different background of knowledge or field of study. Since only intermediate Persian English as Foreign Language Learners of a private institution participated in this research, further studies with more heterogeneous participants (with different educational background, level of English proficiency, nationality and ethnicity) are needed to increase generalizability over time with different tasks or tests.

References

Alakyleh, A. S. (2018). Evaluating the comparability of (PPT) (CBT) by implementing the compulsory Islamic Culture Course Test in the University of Jordan. *International Journal of Assessment Tools in Education, 5*(1), 176-186. DOI: 10.21449/ijate.370494.

Al-Amri, S. (2009). *Computer-Based Testing vs. Paper-Based Testing: Establishing the Comparability of Reading Tests through the Revolution of a New Comparability Model in a Saudi EFL Context.* Unpublished Doctor of Philosophy in Linguistics thesis. Colchester: University of Essex.

American Educational Research Association, (2014). *Standards for Educational and Psychological Testing.* Washington, DC: American Educational Research Association.

Balogun, A. G., & Olanrewaju, A. S. (2016). Role of computer self-efficacy and gender in computer-based test anxiety among undergraduates in Nigeria. *Psychological Thought*, *9*(1), 58-66. https://doi.org/10.5964/psyct.v9i1.160

Boevé, A. J., Meijer, R. R, Albers, C. J, Beetsma, Y., & Bosker, R. J. (2015). Introducing computer-based testing in high-stakes exams in higher education: results of a field experiment. *PLOS ONE*, *10*(12) e0143616. DOI:10.1371/journal.pone.0143616.

Chen, G., Cheng, W., Chang, T.-W., Zheng, X., & Huang, R. (2014). A comparison of reading comprehension across the paper, computer screens, and tablets: Does tablet familiarity matter? *Journal of Computers in Education, 1*(2-3), 213-225.

Corlett-Rivera, K., & Hackman, T. (2014). E-book usage and attitudes in the humanities, social sciences, and education. *Portal: Libraries and the Academy*, *14*(2), 255-286.

Dammas, A. H. (2016). Investigate students' attitudes toward the Computer Based Test (CBT) at chemistry course. *Archives of Business Research, 4*(6), 58-71.

Daniels, L. M., & Gierl, M. J. (2017). The impact of immediate test score reporting on university students' achievement emotions in the context of computer-based multiple-choice exams. *Learning, and Instruction*, 52, 27-35. http://dx.doi.org/10.1016/j.learninstruc.2017.04.001

Fowler, W. A., & Coe, N. (1976). *Nelson English Language Tests*. Ontario: Thomas Nelson and Sons Ltd.

García Laborda, J., & Alcalde Penalver, E. (2018). Constraining issues in face-to-face and Internet-based language testing. *Journal for Educators, Teachers, and Trainers, 9*(2), 47-56.

The International Test Commission (2006) International Guidelines on Computer-Based and Internet-Delivered Testing, *International Journal of Testing*, *6*(2), 143-171, DOI: 10.1207/s15327574ijt0602_4 http://dx.doi.org/10.1207/s15327574ijt0602_4.

Jeong, H. (2014). A comparative study of scores on computer-based tests and paper-based tests. *Behavior & Information Technology*, *33*(4), 410-422.

Khoshsima, H., & Hashemi Toroujeni, S. M. (2017a). Transitioning to an alternative assessment: Computer-Based Testing and key factors related to testing mode. *European Journal of English Language Teaching, 2*(1), 54-74. http://dx.doi.org/10.5281/zenodo.268576.

Khoshsima, H., & Hashemi Toroujeni, S. M. (2017b). Comparability of Computer-Based Testing and Paper-Based Testing: Testing mode effect, testing mode order, computer attitudes and testing mode preference. *International Journal of Computer (IJC), 24*(1), 80-99. http://ijcjournal.org/index.php/InternationalJournalOfComputer/article/view/825/4188.

Khoshsima, H., & Hashemi Toroujeni, S.M. (2017h). Computer-Based Testing: Score Equivalence and Testing Administration Mode Preference in a Comparative Evaluation Study. *International Journal of Emerging Technologies in Learning (iJET), 12*(10). https://doi.org/10.3991/ijet.v12i10.6875.

Kirsch, I., Jamieson, J., Taylor, C., & Eignor, D. (1998). *Computer Familiarity among TOEFL Test Takers* (TOEFL Research Report 59). Princeton, NJ: Educational Testing Service.

Mangen, A., Bente, R. W., & Kolbjørn, B. (2013). Reading linear texts on paper versus computer screen: Effects on reading comprehension. *International Journal of Educational Research, 58*, 61-68.

Mastuti, E., & Handoyo, S. (2017). Effects of individual differences on the performance in computer-based test (CBT). *Advances in Social Science, Education, and Humanities Research: Proceedings of the 3rd ASEAN Conference on Psychology, Counselling, and Humanities (ACPCH, 2017)*. Malang: University of Muhammadiyah. http://dx.doi.org/10.2991/acpch-17.2018.44.

McDonald, A. S. (2002). The impact of individual differences on the equivalence of computer-based and paper-and-pencil educational assessments. *Computers & Education*, *39*(3), 299-312. https://doi.org/10.1016/S0360-1315(02)00032-5.

Mizrachi, D. (2015). Undergraduates' academic reading format preferences and behaviors. *The Journal of Academic Librarianship*, *41*(3), 301-311. http://dx.doi.org/10.1016/j.acalib.2015.03.009.

Phillips, D. (2001). *Longman Complete Course for the TOEFL Test: Preparation for the Computer and Paper Tests*. White Plains, NY: Longman.

Sangmeister, J. (2017). Commercial competence: Comparing test results of paper-and-pencil versus computer-based assessments. *Empirical Research in Vocational Education and Training*, *9*(3). DOI: 10.1186/s40461-017-0047-2.

Schulenberg, S. E. (2002). The development of computer aversion, attitudes, and familiarity index (CAAFI). *Dissertation Abstracts International*, *62*(12), 5978B, (UMI No. 3037841).

Schulenberg, S. E., & Melton, A. M. A. (2008). The computer aversion, attitudes, and familiarity index (CAAFI): A validity study. *Computers in Human Behavior*, *24*(6), 2620-2638. https://doi.org/10.1016/j.chb.2008.03.002.

Schulenberg, S. E., Yutrzenka, B. A., & Gohm, C. L. (2006). The computer aversion, attitudes, and familiarity index (CAAFI): A measure for the study of computer-related constructs. *Journal of Educational Computing Research*, *34*(2), 129-146. https://doi.org/10.2190/45B4-GMH7-GEQB-T1H1.

Washburn, S., Herman, J., & Stewart, R. (2017). Evaluation of performance and perceptions of electronic vs. multiple-choice paper exams. *Advances in Physiology Education*, *41*(4), 548-555. DOI: 10.1152/advan.00138.2016.

Yurdabakan, I., & Uzunkavak, C. (2012). Primary school students' attitudes toward computer-based testing and assessment in turkey. *Turkish Online Journal of Distance Education*, *13*(3), 177-188.

Appendix 1. Semi-structured interview questions

1.	Which mode of testing administration did you prefer?
2.	Which features of the paper-based test did you prefer?
3.	Which features of paper-based test didn't you prefer?
4.	Which features of computer-based test did you prefer?
5.	Which features of computer-based test didn't you prefer?
6.	What was your testing administration mode preference choice before taking paper-based testing?
7.	What was your testing administration mode preference choice after taking computer-based testing?
8.	(In the case of changing mode preference) what was/were the reason(s) that you changed your mode preference choice?

UNIVERSITY STUDENT ACCESS TO AND USE OF ELECTRONIC DEVICES: A LATENT ENGLISH LANGUAGE LEARNING POTENTIAL

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Abstract

This study investigates the potential, in relation to learning and using English, which exists in the current access to and use of new technological devices by university students who are not native speakers of English. As an example case, the availability of a range of devices to 138 Saudi English and Business students at a Saudi university was ascertained through a survey, along with their current use both in general, and specifically involving English, both on and off campus. Students and teachers were also interviewed in order to illuminate the further enhancement of student use of their devices for English improvement. The findings indicate that a range of electronic devices, especially smart phones and laptops, are owned by, or to a lesser extent accessible in other ways to, students. English majors however far outstrip Business majors in access to and use of devices. A considerable proportion of use of devices, especially by English majors, is already English-related. On two measures, it is the smart phone which has the greatest potential for further exploitation in relation to English, followed by the laptop and tablet, and for English majors the TV. Based on teacher and student comments, recommendations are made for such English as a foreign language contexts as to how best to move forward to exploit this potential for both groups of students.

Keywords: technology; CALL; MALL; smart phone; English Language Learning; ESOL; EFL

1. Introduction

The field of English as a Foreign Language (EFL) learning and teaching everywhere struggles to keep pace with the rapid development of new digital media and devices. Students may be taking up such resources and using them in ways which impact on their learning of English while their teachers barely know they exist. There is a shortage even of basic research concerning the extent of student access to and use of such devices in ways which involve English. Yet knowing about this is a prerequisite for teachers to harness such resources to assist English language teaching (ELT) (Muslem et al., 2018). Without this knowledge, the teacher's ELT classroom may become irrelevant and/or undermined by the students' own activities, or at best fail to exploit them (Oliver and Goerke, 2007). This study therefore

focuses on student access to, and use of, digital devices in an EFL context, taking as an example the case of English and Business majors in a Saudi university.

Many claims are made about the benefits worldwide of the use of all kinds of technology in connection with learning foreign languages. Technological devices and new ways in which the internet works are not merely claimed to make the process of learning a second language easier and faster, but also to enhance motivation (Granito and Chernobilsky, 2015). New learning theories of a more social and constructivist nature have now become dominant in Computer-Assisted Language Learning (CALL), replacing the older idea of the computer just as a surrogate teacher (Beatty, 2010; Dashtestani, 2018).

The extensive empirical research conducted to support the claimed benefits of CALL (e.g., Stockwell, 2010; Zhang et al., 2011; Kiernan and Aizawa, 2004; Hung and Young, 2013; Cabrera et al., 2018) often relies on introducing learners to some new device, software or internet site for learning or practising a foreign language. Hence it is often hard to separate novelty effects from genuine benefits of the use of technology. Furthermore, while learner attitudes to new technology are often very positive, it has not been always possible to demonstrate genuine advantages in the actual learning achieved. In a meta-analysis of studies in many countries, Grgurović et al. (2013) concluded only that results "favored the technology-supported pedagogy, with a small, but positive and statistically significant effect size" (p. 1). Furthermore, there now exist many types of devices and kinds of software or websites which could contribute to learning a foreign language such as English. Most studies, however, focus just on the use of one specific device or application so it is very difficult to obtain a realistic overview.

An important related issue here is that of sustainability, which has recently emerged as crucial in CALL and mobile assisted language learning (MALL) (Kennedy & Levy, 2009). This concept concerns the extent to which uses of technology can be applied to many types of learners and maintained for long periods of time. It recognises the limited value of initiatives which, for example, apply only to a specific type of learner, require expensive equipment not already widely available, or software that will need constant updating to run on future platforms, and perhaps entail the involvement of a teacher with special training or unusual enthusiasm. Many conventional experimental interventions suffer from these problems of lack of sustainability. By contrast, sustainable CALL/MALL would use devices and software which students and teachers already possess or have ready access to, and use, and which do not require specialist knowledge to exploit, and hence are more sustainable.

Overall, then, while traditional CALL/MALL experiments show some benefit of technology for language learning, there are signs of a need to exploit devices and applications which students already use for other purposes, rather than just impose researcher or teacher decisions on what devices and software to use top down. As Dahlstrom et al. (2012) concluded, "students are ready to use *their* mobile devices more for academics, and they look to institutions and instructors for opportunities and encouragement to do so" (p. 41; emphasis ours).

We, therefore, propose to provide foundation information about what devices university level English learners normally use, within the constraints of what is available to them, but unconstrained by researcher imposition of use of anything for the study. From that we move to what they use the devices for, and especially what uses they already make of them with any EFL element. This we present as essential information from which we can see where there exists potential for learners to be encouraged to use their existing resources more effectively for learning English.

2. Review of studies of access to, and use of, devices

A number of extensive survey studies of access to and/or use of new technology have been conducted either in the US (Nagel, 2013; Chen and Denoyelles, 2013; Johri et al., 2013), or in Australia (Oliver and Goerke, 2007; Murphy et al., 2014), which, however, did not address EFL contexts. Furthermore, while some did separately report ownership of devices and their use, and/or separated general use from academic use, and even detailed the locations where students reported using devices, none separated use involving a foreign language from other uses.

In EFL contexts worldwide, while surveys of students are common, they tend to be far from comprehensive and often more interested in recording attitudes to, rather than ownership, availability and actual use of, ICT tools (e.g., Tafazoli, 2018). They also tend to focus solely on the classroom (Solano, 2017; Zinan & Sai, 2017). A study closer to ours, in Poland, is Turula's (2016), which, however, limited itself to how 'good' learners used digital resources outside of class (regardless of device and availability). In particular it makes use (p. 58) of the notion of the 'online potential', something which we take up and indeed hope to measure.

Comprehensive surveys such as ours do not seem to have been conducted in EFL contexts such as the Arab world either, although there do exist some studies which are indirectly informative. For instance, the Arab Spring of 2011 generated some research on the

role of social media in those events which, in turn, sheds light on ownership and use patterns of mobile devices such as smart phones, though not of course on use of those involving English (Melki, 2015). Furthermore, there are relevant studies in contexts very close to Saudi Arabia, such as Awwad and Ayesh (2013), who revealed that at UAE University 53% of students claim to use their laptop for academic purposes only.

In Saudi Arabia, a number of studies in Saudi schools have revealed concerns commonly found also in other contexts such as South America and the Far East: lack of availability of relevant devices, lack of teacher training and time (Almaghlouth, 2008; Al-Rashed, 2002; Alamri, 2011). Such studies, however, make only passing mention of the technological resources that students themselves own or have access to outside class and which could be exploited, with the exception of Alzahrani (2014), which accessed Saudi students a year below ours.

Following the argument for sustainable CALL/MALL which we advanced in section 1, we therefore feel that there exists an urgent need to obtain comprehensive survey information about many EFL contexts, such as Saudi Arabia, including specifically information about existing English related use of devices by different kinds of students. We would further argue that, in order to assist EFL teachers, there needs to be more careful attention paid to the argumentation used when making suggestions about teaching/learning potential based on survey findings. In those studies which draw implications for teachers from their findings, such as Oliver and Goerke (2007), often quite a loose argument is advanced relating the facts about ownership or use with suggestions for where the teaching potential lies and what teachers should do. We propose rather to make the following assumptions: EFL potential is greater for devices which are most available to students, especially those which they own; EFL potential is greater for devices which are most used by students, especially where existing use involving English is low relative to overall use.

3. The study

3.1. Aims and research questions

The present research seeks to address the above gaps by answering these research questions:

1. What patterns of availability, general use, and English language-related use, of devices do we find in different locations among Saudi English and Business majors?
2. Which devices exhibit the greatest gap between Saudi English and Business majors' general use, and use involving English language?

3. What views do teachers and students have on the greater exploitation for English of technology which students already use?

In order to enhance the reliability and validity of the study we gathered both quantitative data from closed questionnaire items and qualitative information from open response questionnaire items and interviews.

3.2. Participants

106 English majors and 32 Business majors at a typical Saudi Arabian university participated in the survey. We targeted the entire first year intake of these disciplines in order to be fully representative and allow for attrition due to unwillingness to participate or spoilt protocols. The sample was aged 18 to 22 years, mean 21.25, and included both genders although gender differences were not explored due to the time constraint and word limit for this paper.

These students had normally studied English for six years at school and taken further English courses at university (mean 7.4 years of English study). The English majors continue to study English and receive instruction through the medium of English during their undergraduate years. The Business majors study their subject primarily through the medium of Arabic, but take two English courses, and there is some use of English in lectures for terminology and in some instances more widely depending on the lecturer. The student participants would be regarded as beginner or low intermediate in international terms.

For the interviews, we selected randomly eight representative male teachers holding M.A.'s and Ph.D.'s and twelve students, including both high and low users of technology. We were unable to include female teacher interviewees due to their busy schedules.

3.3. Instrumentation and procedure

Data for the project were collected through an online questionnaire delivered by *Smart Survey*, with follow-up interviews. Validity of the questionnaire was assured by its design, based on a wide range of previous published studies (section 2), and submission of the final version of the questionnaire to an expert in the field. It was also piloted with 15 students and a few minor revisions were made. The questionnaire elicited:

1) student demographics;
2) ownership of, and access by other means to, devices (yes/no response);
3) general use of devices for any purpose, in four possible locations (hours per week);
4) use of devices in ways involving English, in four possible locations (hours per week);

5) respondents' free views on the kinds of uses they made of devices in relation to English.

The interviews lasted 20-25 minutes and were audio-recorded in a college office. They were semi-structured, conducted in Arabic and designed to follow up on the questionnaire, covering the same questions, but exploring respondents' use of technology in greater depth.

3.4. Results and findings

The quantitative data was exported from *Smart Survey* to *Excel* and then into *SPSS* Version 20 to obtain the necessary statistics. Open response qualitative data were transcribed and translated into English by the researcher, then read repeatedly and coded thematically with input from a second expert to increase reliability and validity.

3.4.1 Pattern of access to, and use of, devices

Tables 1-4 show respectively students' reported device availability, general use time, English related use time, and English related activities on devices. Overall, out of 56 possible forms of device access (14 devices each with four access types, see Table 1), students on average claimed to have 10 available (range 2-25). For all students access was mainly through ownership (similar to Alzahrani, 2014), and was highest for smart phones and laptops, followed by electronic dictionaries and tablets. English majors also reported high access to TVs and games consoles. These devices, therefore, present the greatest potential for English teachers to exploit in our context on the criterion of 'hardware availability'.

Table 1. Percentages of students claiming different kinds of access to devices

TYPE of ACCESS	**Owned**		**Friend or family**		**Internet café**		**Campus**	
DEVICE	**English**	**Business**	**English**	**Business**	**English**	**Business**	**English**	**Business**
Desktop computer	50.9	18.8	15.1	0.0	11.3	0.0	35.8	12.5
Laptop computer / Notebook / Netbook	81.1	68.8	24.5	0.0	3.8	0.0	0.0	0.0
Mobile phone with internet access / Smart Phone	88.7	81.3	9.4	0.0	5.7	6.3	3.8	0.0
Mobile phone without internet access	66.0	6.3	20.8	0.0	1.9	6.3	1.9	0.0
Tablet / iPad	49.1	50.0	39.6	0.0	5.7	6.3	1.9	0.0
e-Reader / Kindle	7.5	0.0	17.0	0.0	9.4	0.0	18.9	0.0

Audio player connected to internet / iPod	41.5	0.0	24.5	0.0	3.8	0.0	11.3	0.0
Audio player not connected to internet / mp3 / CD player	47.2	6.3	17.0	0.0	3.8	0.0	13.2	0.0
DVD player not connected to internet	43.4	0.0	30.2	0.0	0.0	0.0	11.3	0.0
Electronic Dictionary	56.6	56.3	17.0	0.0	11.3	6.3	7.5	0.0
Electronic organizer	30.2	6.3	17.0	0.0	3.8	0.0	15.1	0.0
Games console / Xbox / Play station	64.2	18.8	13.3	0.0	5.7	0.0	1.9	0.0
Smart TV connected to internet	45.3	50.0	22.6	0.0	1.9	0.0	7.5	0.0
Regular TV not connected to internet	62.3	6.3	13.2	0.0	7.5	0.0	9.4	0.0
Average	**52.4**	**26.4**	**20.1**	**0.0**	**5.4**	**1.8**	**10.0**	**0.9**

Surprisingly, a significantly higher percentage of the English majors than Business majors claimed to have access to devices, almost without exception regardless of the means of access or the device (Wilcoxon test, $p<.02$).

As seen in Table 2, consistent with the reported availability of access, reported rates of time spent in general use of devices by English majors were everywhere higher than those by Business majors, regardless of device or location of use, with the sole exception of use of laptops at home (Wilcoxon $z=3.30$, $p=.001$).

Correlations supported the considerable parallelism between general use and ownership. Devices more frequently used by English majors at home were also more often frequently owned by them (Spearman $rho=.802$, $p=.001$). Greater general use of devices by Business majors at home was also positively related to ownership ($rho=.870$, $p<.001$).

Table 2. Mean reported general use of devices (hours per week)

LOCATION	**Home**		**Off campus, not home**		**On campus without teacher**		**On campus with teacher**		**Totals**	
DEVICE	**English**	**Business**	**English**	**Business**	**English**	**Business**	**English**	**Business**	**English**	**Business**
Desktop computer	2.59	0.06	0.26	0.0	0.24	0.0	.68	0.0	3.77	0.06
Laptop computer / Notebook / Netbook	1.15	1.62	0.88	0.0	0.15	0.0	0.24	0.0	2.42	1.62
Mobile phone with internet access / Smart Phone	8.00	3.69	1.59	0.19	0.65	0.06	0.21	0.0	10.5	3.94
Mobile phone without internet access	3.68	0.0	0.53	0.0	0.18	0.0	0.06	0.0	4.45	0
Tablet / iPad	1.24	0.25	0.38	0.0	0.03	0.0	0.03	0.0	1.68	0.25

e-Reader / Kindle	0.62	0.0	0.41	0.0	0.18	0.0	0.12	0.0	1.33	0
Audio player connected to internet / iPod	0.88	0.0	0.24	0.0	0.15	0.0	0.12	0.0	1.39	0
Audio player not connected to internet / mp3 / CD player	1.38	0.0	0.38	0.0	0.15	0.0	0.12	0.0	2.03	0
DVD player not connected to internet	0.71	0.0	0.21	0.0	0.09	0.0	0.15	0.06	1.16	0.06
Electronic Dictionary	1.32	0.44	0.5	0.0	0.18	0.0	0.32	0.0	2.32	0.44
Electronic organizer	0.85	0.0	0.29	0.0	0.18	0.0	0.09	0.0	1.41	0
Games console / Xbox / Play station	4.09	0.0	0.62	0.0	0.18	0.0	0.09	0.0	4.98	0
Smart TV connected to internet	1.18	0.5	0.56	0.19	0.06	0.0	0.12	0.0	1.92	0.69
Regular TV not connected to internet	2.88	0.13	0.18	0.0	0.29	0.0	0.12	0.0	3.47	0.13
TOTAL hours per week	**30.6**	**6.63**	**7.03**	**0.38**	**2.71**	**0.06**	**2.47**	**0.06**	**42.8**	**7.19**

The same general pattern emerges for English related use (Table 3) as for general use (Table 2), albeit involving smaller amounts of time, in that English majors reported significantly more use of each device at each location than Business majors did (Wilcoxon z=3.30, p=.001). In this instance this is of course entirely explicable due to the fact that English majors are more focused on English than Business majors, who receive most of their instruction in Arabic. Furthermore, while English majors used devices on campus only to a limited extent for English, the Business majors reported never using devices on campus for English, or indeed much else.

Table 3. Mean reported use of devices involving English (hours per week)

LOCATION	**Home**		**Off campus, not home**		**On campus without teacher**		**On campus with teacher**		**Totals**	
DEVICE	**English**	**Business**	**English**	**Business**	**English**	**Business**	**English**	**Business**	**English**	**Business**
Desktop computer	2.59	0.06	0.26	0.0	0.09	0.0	0.35	0.0	3.29	0.06
Laptop computer / Notebook / Netbook	0.88	0.63	0.53	0.0	0.06	0.0	0.24	0.0	1.71	0.63
Mobile phone with internet access / Smart Phone	2.12	0.69	0.32	0.19	0.18	0.0	0.6	0.0	3.22	0.88
Mobile phone without internet access	0.76	0.0	0.41	0.0	0.03	0.0	0.03	0.0	1.23	0
Tablet / iPad	0.59	0.06	0.15	0.0	0.0	0.0	0.0	0.0	0.74	0.06
e-Reader / Kindle	0.32	0.0	0.18	0.0	0.15	0.0	0.03	0.0	0.68	0

Audio player connected to internet / iPod	0.47	0.0	0.09	0.0	0.03	0.0	0.03	0.0	0.62	0
Audio player not connected to internet / mp3 / CD player	0.62	0.0	0.29	0.0	0.15	0.0	0.0	0.0	1.06	0
DVD player not connected to internet	0.68	0.0	0.0	0.0	0.0	0.0	0.15	0.0	0.83	0
Electronic Dictionary	0.76	0.19	0.41	0.0	0.09	0.0	0.12	0.0	1.38	0.19
Electronic organizer	0.41	0.0	0.29	0.0	0.18	0.0	0.06	0.0	0.94	0
Games console / Xbox / Play station	4.09	0.0	0.32	0.0	0.0	0.0	0.09	0.0	4.5	0
Smart TV connected to internet	0.94	0.31	0.35	0.19	0.0	0.0	0.0	0.0	1.29	0.5
Regular TV not connected to internet	0.94	0.13	0.18	0.0	0.0	0.0	0.12	0.0	1.24	0.13
TOTAL hours per week	**16.2**	**2.07**	**3.78**	**0.38**	**0.96**	**0**	**1.82**	**0**	**22.73**	**2.45**

With respect to different kinds of English related use (Table 4), six devices were reported with 5 or more different uses: the most versatile are clearly laptops and smart phones. The most popular uses were vocabulary/dictionary activities, which constitute a study related function, where English language is the focus, and watching movies, where English is presumably incidental to the main focus on understanding and enjoying the narrative of the film.

Table 4. Uses made of each device which involve English
(E = English majors, B = Business majors; numbers reflect multiple responses)

DEVICE / **TYPE of USE**	**Smart phone**	**Laptop etc.**	**Desktop PC**	**Tablet / iPad**	**Not named**	**TV**	**e-Dictionary**	**XBox / PS**	**iPod**	**Total**
Movies	E3	E3 B3			E8	E				18
Vocabulary / dictionary	E2 B	E		E	E		E9 B2			17
Writing	E	E	E	E			E3 B			8
Music / songs	E3 B	B		B	E				E	8
Games	E3	E	E	B				E2		8
Internet	E4 B				E					6
Study/learn major subject		E2	E2					E		5
Grammar	E	E3					E			5
Translating	E			B	B		E			4
Homework		E		E	E					3
Reading	E		E				E			3

Listening		B				E2				3
Socials/Skype	E3									3
Hobby/interest	E		E							2
Speaking						E				1
Language skill video		B								1
Share lang. with peers	E									1
Youtube			E							1
News						E				1
eBook		B								1
Shows						E				1
Longer task			E							1
Total	**12**	**11**	**6**	**6**	**6**	**5**	**5**	**2**	**1**	

3.4.2. The potential for use-time exploitation

In order to answer RQ2, we calculated the amount of time per week of general use of each device that was not already English-related, and the percentage of total use time (Table 5). Larger percentage indicates greater 'use time availability' for greater additional use in relation to English of already used technology.

Overall 47% of English majors' use of technology reportedly did not involve English, while 66% of Business students' did not (although the latter constitutes fewer hours than the former). In other words, the majority of English majors' use time is already English-related while, unsurprisingly, the majority of Business majors' (lesser) time is not. Furthermore, given that two thirds or more of use time for both groups was at home, any exploitation of this potential surely needs to take place there.

Considering devices separately, the greatest potential exists for both groups in the smart phone, in terms of hours per week (Table 5). However, having given time in hours greater weight than percentage of time, the pattern differs by majors. For English majors the next device with greatest potential is the regular phone then the regular TV, audio player, electronic dictionary and tablet. For Business majors however the second largest potential is with the laptop and then the electronic dictionary and tablet, but by that point only fractions of an hour per week are available. Notably for English majors the laptop and desktop do not present much potential as their use is already largely dominated by English, in contrast with the tablet.

Table 5. Non English- related use of devices

DEVICE	Use of devices not claimed to be English related (hours per week)		Non-English use as percent of total use	
	English	Business	English	Business
Desktop computer	0.48	0.00	12.73	0.00
Laptop computer / Notebook / Netbook	0.71	0.99	29.34	61.11
Mobile phone with internet access / Smart Phone	7.28	3.06	69.33	77.66
Mobile phone without internet access	3.22	0.00	72.36	-
Tablet / iPad	0.94	0.19	55.95	76.00
e-Reader / Kindle	0.65	0.00	48.87	-
Audio player connected to internet / iPod	0.77	0.00	55.40	-
Audio player not connected to internet / mp3 / CD player	0.97	0.00	47.78	-
DVD player not connected to internet	0.33	0.06	28.45	100.00
Electronic Dictionary	0.94	0.25	40.52	56.82
Electronic organizer	0.47	0.00	33.33	-
Games console / Xbox / Play station	0.48	0.00	9.64	-
Smart TV connected to internet	0.63	0.19	32.81	27.54
Regular TV not connected to internet	2.23	0.00	64.27	0.00
TOTAL	**20.07**	**4.74**	**46.89**	**65.92**

3.4.3. Student and teacher perspectives on greater use of devices in relation to English

RQ3 is concerned with the views of the stakeholders on how to facilitate a more optimum exploitation for English of the available technological device potential. The teacher was often seen as the key. For example, S6, a low user, referring to his tablet, said: “Yes, the teacher can help me by suggesting new applications or guiding me on using complicated applications. So I believe that teachers play an important role in helping me”. S1 (a high user) offered a specific suggestion for teachers: “I think English language teachers can ask me and my classmate to search the internet to find extra information related to the lesson, it’s a good activity.” S3, a high user, even suggested:

> every English language teacher should have his/her own E-portfolio and also encourage their students to have this kind of tool. I have seen on the internet some e-portfolios designed by English language teachers from different countries and I think it’s very useful and also very easy to use….students can use this kind of technology to share and to exchange information and knowledge related to language learning.

On the other hand, when S4 (a low user) was asked if the English teacher could usefully get more involved in his use of technology, the student admitted: “It’s very difficult to answer this question, but I think it’s not easy because the teacher himself doesn’t use technology devices during the English language lesson.”

S1 (a high user) by contrast pointed to how the learner could autonomously use the TV for English: “Television can be a good way of learning English language because there are

many good English language programs and lessons that are available on some educational channels." However, when asked why he did not watch it more he said "Because of time, I don't have much time to spend on watching the TV". S2 gave a different reason for disuse of TV. Although he had access to a family TV at home, it was not often actually available to him: "I don't have my own TV at house, there is only one TV at my home so all the family members use it to watch."

The teachers themselves were generally in favour of enhanced use of technology and evidenced some ability in using it themselves, either for their own benefit or in class. They also showed some awareness of the student situation, e.g. T1 claimed:

> Students are faced with computers both at home, at school and at university. You know I always encourage my students to use technology, because every single student in my classroom I am quite sure that he has an iPad, or computer or smart phone at home. I am sure that students' experience with technology can vary greatly from one student to the next. I am aware most of the students are using technology devices at home because when I ask students to complete their homework at home then submit it,….they type it on computer. I always encourage them to make use of these tools for their own benefit.

This attitude, however, seemed to stop short of being able to make suggestions about how actually to involve students more with the devices that they have, in a way that would promote their English.

However, some teachers admitted their own limitations as far as technology is concerned, e.g. T1 reported: "Because of time, in fact I don't have enough time for that. I am a very busy person, a lot of work to do at the college and also at home." Further, some regarded student lack of motivation as an obstacle: for T4 "[t]he only obstacle is that students should be willing to do so." Hence T2 thought an incentive would be needed: "Initially, it may be given a deaf ear but there is every likelihood of its getting implemented to the benefit of students if it entails academic credit with it." In our experience it is definitely true that the students become more interested if they receive incentives and more credit.

4. Implications and conclusion

First, overall, it is clear that in our context, as probably in many other EFL contexts around the world, device ownership, and hence use at home, far outweighs access to devices by other means, and represents a huge largely untapped and sustainable resource for learning. The single device that is most owned and used and at the same time that has the largest potential for greater use in relation to English, especially out of class, is the smart phone (consistent

with Oliver & Goerke, 2007). There is also some additional potential for the laptop, electronic dictionary and tablet, and for English majors the TV and the games console.

The English-related activities that are most common, in contrast with those reported by Alzahrani (2014) only a few years ago in a similar context, are watching movies and looking up vocabulary, followed by listening to music, writing and playing games. The tendency for phones to overtake laptops and desktops in English-related uses is also in conflict with studies like Nagel (2013), who found phones lagged behind the laptop for study purposes. There is a clear message for all that this is a fast changing area and teachers/researchers around the world really need to continually update their knowledge of the current situation in their own contexts, perhaps employing an instrument such as ours.

Based on our admittedly small sample, students and teachers both seem open to the idea of their existing technology being exploited more for English. However, they both need more guidance, as has often been noted in other studies worldwide (e.g., Muslem et al., 2018, in Indonesia). We suggest this might start with MALL workshops for teachers, dedicated to how they can train students to get the most out of their devices in relation to English when using them autonomously, especially at home, and what English-related activities the teachers can themselves usefully engage them in through their phones or tablets (Kiernan and Aizawa, 2004). Teachers in all contexts should be encouraged to try informal action research projects, using ideas from the literature. One could be simply seeking out the best apps to recommend to the students to use autonomously, whether for dictionaries, or language skills practice exercises, or material to listen to or read that is at the right level and on relevant topics, e.g. on Voice of America special English, or Al Jazeera English, or YouTube. Another could be through exploiting existing social media uses, e.g. encouraging students to tweet each other and the teacher in English about whatever takes their interest, or share photos and record their spoken comments on them, or to maintain a class blog in English on a relevant theme. Additionally, the teacher could embed existing class work more in a MALL framework, e.g. communicating with students via texts or maybe a Facebook interest group for the class. These could be used to ask for and receive and share feedback on ongoing assignments, push little tasks at students, or engage them more at home in tasks such as ‘business vocabulary of the week’ to learn. There is no space to review such ideas fully here: they are presented individually in research articles such as Stockwell (2010) or Hung and Young (2015), but teachers with little time might better access idea-sharing sites like British Council (2017) or Sperling (2017) or review articles such as Reinders (2010) or Yang (2013). One thing is clear,

however: all ideas notably require the teacher him/herself to get immersed in what modern devices can do, and discuss with their students what uses they already make of them.

In conclusion, it must be admitted that this study was small scale in number of participants, and limited to one university. Nevertheless, apart from providing a valuable documentary snapshot of a neglected specific context, and some crucial implications for that context, the issues it has raised surely resonate in many other similar English as a foreign language contexts around the world which share many of the same general conditions. Furthermore, our implementation of a measure of potential for further English-related use of technology based on device use time separately from device availability/ownership constitutes an area of research which deserves further exploration.

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References

Alamri, N. (2011). *Impact of Globalisation and the Internet on English Language Teaching in Saudi Arabia*. Unpublished master dissertation. Leicester, UK: De Montfort University.

Almaghlouth, O. (2008). *Saudi Secondary School Science Teachers' Perceptions of the Use of ICT tools to Support Teaching and Learning*. Unpublished master dissertation. Hamilton, New Zealand: University of Waikato.

Al-Rashed, H. (2002). *Teachers and Information Communication Technology in Saudi Arabia: Current Use and Training Needs*. Unpublished PhD thesis. Hull, UK: University of Hull.

Alshahrani, H., & Walker, D. (2016). Descriptive study of the attitudes of instructors and students toward the use of asychronous online discussion at a female university in Saudi Arabia. *Mid-Western Educational Researcher, 28*(3), 232-246.

Alzahrani, R. (2014). *Saudi Students' and Teachers' Access to, Use of, and Attitudes to CALL for EFL Instruction in the Preparatory Year Programme at Tabuk University*. Unpublished MPhil dissertation. Colchester: University of Essex.

Awwad. F. & Ayesh, A. (2013). Effectiveness of laptop usage in UAE University undergraduate teaching. *The Turkish Online Journal of Educational Technology, 12*(2), 77-88.

Beatty, K. (2010). *Teaching and Researching Computer-Assisted Language Learning* (2nd Edition). London: Pearson Education.

British Council. *Teaching tips*. Retrieved 1 February 2017 from https://www.britishcouncil.org/voices-magazine/teaching-tips-how-students-can-use-mobiles-to-learn-english.

Cabrera, P., Castillo, L., González, P., Quiñónez, A., & Ochoa, C. (2018). The impact of using Pixton for teaching grammar and vocabulary in the EFL Ecuadorian context. *Teaching English with Technology, 18*(1), 53-76.

Chen, B. & Denoyelles, A. (2013). Exploring students' mobile learning practices in higher education. *EduCAUSE Review*. Retrieved 1 February 2017 from https://er.educause.edu/articles/2013/10/exploring-students-mobile-learning-practices-in-higher-education

Dahlstrom, E. (2012). ECAR study of undergraduate students and information technology. Retrieved 1 February 2017 from https://library.educause.edu/~/media/files/library/2012/9/ers1208.pdf?la=en

Dashtestani, R. (2018). Collaborative academic projects on social network sites to socialize EAP students into academic communities of practice. *Teaching English with Technology*, *18*(2), 3-20.

Granito, M., & Chernobilsky, E. (2012). The effect of technology on a student's motivation and knowledge retention. Proceedings of Northeastern Educational Research Association Conference (NERA, 2012) (pp. 1-22).

Grgurović, M., Chapelle, C. & Shelley, M, (2013). A meta-analysis of effectiveness studies on computer technology-supported language learning. *ReCALL*, *25*(2), 165-198. DOI:10.1017/S0958344013000013. Retrieved 1/2/2017 from https://www.researchgate.net/publication/259432359

Hung, H.-C., & Young, S. S.-C. (2015). The effectiveness of adopting e-readers to facilitate EFL students' process-based academic writing. *Educational Technology & Society*, *18*(1), 250-263.

Johri, A., Teo, H.J., Lo, J., Dufour, M., & Schram, A. (2014). Millenial engineers: Digital media and information ecology of engineering students. *Computers in Human Behavior*, 33, 286-301.

Kennedy, C., & Levy, M. (2009). Sustainability and computer-assisted language learning: Factors for success in a context of change. *Computer Assisted Language Learning*, *22*(5), 45-463.

Kiernan, P., & Aizawa, K. (2004). Cell phones in task based learning - Are cell phones useful language learning tools? *ReCALL*, *16*(1), 71-84. DOI: https://doi.org/10.1017/S0958344004000618

Melki, J. (2015). Guiding digital and media literacy development in Arab curricula through understanding media uses of Arab youth. *Journal of Media Literacy Education*, *6*(3), 14-28.

Murphy, A., Farley, H., Lane, M., Hafeez, B. A., & Carter, B. (2014). Mobile learning anytime, anywhere: What are our students doing? *Australasian Journal of Information Systems*, *18*(3), 331-345.

Muslem, A., Yusuf , Y. Q., & Juliana, R. (2018). Perceptions and barriers to ICT use among English teachers in Indonesia. *Teaching English with Technology*, *18*(1), 3-23.

Nagel, D. (2013). Report: Students use smart phones and tablets for school, want more. *Mobile Learning Research*. Retrieved 1 January 2019 from https://thejournal.com/articles/2013/05/08/report-students-use-smart-phones-and-tablets-for-school-want-more.aspx

Oliver, B., & Goerke, V. (2007). Australian undergraduates' use and ownership of emerging technologies: Implications and opportunities for creating engaging learning experiences for the Net Generation. *Australasian Journal of Educational Technology*, *23*, 171-186.

Reinders, H. (2010). Twenty ideas for using mobile phones in the language classroom. *English Teaching Forum*, *48*(3), 20-33.

Solano, L., Cabrera, P., Ulehlova, E. & Espinoza, V. (2017). Exploring the use of educational technology in EFL teaching. *Teaching English with Technology* , *17*(2), 77-86.

Sperling, D. (2017). *Dave's ESL Cafe*. Retrieved 1 January 2019 from http://www.eslcafe.com/idea/index.cgi?Internet:

Stockwell, G. (2010). Using mobile phones for vocabulary activities: Examining the effect of the platform. *Language Learning & Technology*, *14*(2), 95-110. Retrieved 1 January 2019 from http://llt.msu.edu/vol14num2/stockwell.pdf

Tafazoli, D., Parra, E.G., & Abri, C.A.H. (2018). A cross-cultural study on the attitudes of English language students towards computer-assisted language learning. *Teaching English with Technology*, *18*(2), 34-68.

Turula, A. (2016). What the good (digital) language learner can teach us? *Teaching English with Technology*, *16*(3), 52-73.

Yang, J. (2013). Mobile Assisted Language Learning: Review of the recent applications of emerging mobile technologies. *English Language Teaching*, *6*(7), 19-25.

Zhang, H., Song, W. & Burston, J. (2011). Re-examining the effectiveness of vocabulary learning via mobile phones. *Turkish Online Journal of Educational Technology*, *10*(3), 203-214.

Zinan, W. & Sai, G. (2017). Students' perceptions of their ICT-based college English course in China. *Teaching English with Technology*, *17*(3), 53-76.

THE EFFECTIVENESS OF USING A HYBRID MODE OF AUTOMATED WRITING EVALUATION SYSTEM ON EFL STUDENTS' WRITING

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Abstract

Automated Writing Evaluation programs have been used extensively to assist both L2 instructors and learners to get corrective feedback and to score students' final product of writing. Research has found that the AWE programs help in optimizing the writing output. However, little is known about the hybrid mode; use of AWE involving the evaluation of both modes instructors and the AWE program. This paper studies the effects of both modes in developing the students' writing outputs using a small case study of 6 EFL learners. The learners were exposed to both modes where in each mode they undertook two sessions using the program. In the first phase the learners wrote an essay via *MY Access* and then saved their input in the program. In the second session, they revised their essays based on the feedback given from the program. In the hybrid mode, the same students in the second session revised their input as per the instructor's feedback and then continued submitting their essays via *MY Access*. Results found that under the hybrid condition students significantly outscored the learners with the AWE program.

Keywords: automated writing evaluation; corrective feedback; writing; hybrid

1. Introduction

The notion of corrective feedback has been increasingly enhanced by the advent of automated writing evaluation (AWE) software such as e-*rater*, *MY Access*, *Holt Online Scoring*, *BETSY* and *Criterion*. The positive efficacy of such programs has been demonstrated by empirical studies (see Stevenson & Phakiti, 2014 for a comprehensive review). Despite their limitations in detecting writing content errors, they have helped in providing immediate feedback of mechanical errors for students' writing, something a human cannot always do (Lavolette, Polio & Kahng, 2015).

The computer-generated feedback provides comments in the form of cast, meta-linguistics, scoring and/or correction. Instructors may find it hard to give instant feedback for students' problematic areas of their pieces of writing, but AWE can partially do that for certain aspects of the language. According to Lavolette et al., (2015), error codes generated by

Criterion were 75% correct. Besides, Hoang and Kunnan (2016) found 73% precision of error scoring provided by *MY Access.* In fact, the issue of corrective written feedback of AWE programs has been debatable for years. Proponents of such programs, who are frequently affiliated with companies that develop such programs, laud their precision and valuable feedback. On the other hand, opponents of these programs base their criticism on the call of Truscott (1999) to abandon such software as they focus on correcting grammatical errors which could lead to surface learning and that could not foster L2 acquisition as the ultimate goal. In fact, whatever accuracy these programs offer, human intervention is essential to control the limits of the program and to advance the high quality of corrective feedback.

Due to mixed designs of the previous studies, lack of validity of such corrective feedback provided by AWE, diversity of programs' features, and shortage of empirical studies, we cannot draw a firm conclusion of the efficacy of these programs. Therefore, more studies are called for to gain a fine-grained picture about the final product of students' writing mediated by AWE programs.

The current study aims to determine the efficacy of AWE (*MY Access*) in developing students' revision of essay writing and to examine how the students' scores improved from the first draft to the second one in two different writing tasks via a computer-assisted writing affordance.

2. Literature review

Recently, a number of writing programs have been developed to assess students' writing as well as provide formative and summative feedback on their writing. Such programs are known as Automated Essay Scoring (AES) (Shermis & Buretein, 2003) or Automated Writing Evaluation (AWE) (Warschauer & Ware, 2008) , Examples of AES/AWE include *e-rater, MY Access, Holt Online Scoring, BETSY* and *Criterion*. AES or (AWE) has been described as computer technology that evaluates and scores written prose with the purpose of saving time, reducing cost, and increasing reliability in the assessment of writing (e.g. Chung & O'Neil, 1997; Hamp-Lyons, 2001; Rudner & Liang, 2002).

However, research into the use of automated applications has yielded inconclusive findings. Some studies have reported positive results (Coniam, 2009) while others have reported negative or mixed results (Lai 2010; Lee et al, 2009; Tuzi, 2004). These contradictory results could be attributed to several factors such as individual writing ability, the pedagogy adopted and the specific automated application affecting the results (Lee et al., 2009). For example, less trained writers faced difficulties in using revision tools and also

novice writers could not access these tools (Kozna & Johnston, 1991). Similarly, learners who used *MY Access* were dissatisfied with the grade they received regarding the accuracy and clarity of feedback on content and the rhetorical aspects of their writing (Chen & Cheng, 2008). In contrast, a number of case studies (e.g., Dmytrenko-Ahrabian, 2008; Ellison, 2007; Ussery, 2007) reported student and teacher's satisfaction with the *Criterion* software.

The majority of studies reviewed in the AWE literature have used *Criterion* to provide immediate feedback and scores on students' writings. According to a systematic review study on the use of AWE to improve L2 writing skills which was conducted by Stevenson and Phakiti (2014),,around 33% of their selected studies had used *Criterion* to provide immediate feedback to the students' errors while only 15% of studies used *MY Access* . The overuse of such programs in the literature could be explained by the fact that these programs "provide feedback on both global writing skills and language use" (Stevenson & Phakiti, 2014, p. 52). Criterion has the potential to give indirect feedback to errors and also provide suggestions to the correct form (Lavolette et al., 2015). Yet, AWE cannot replace instructors and scoring made by such programs cannot be regarded as accurate as human rating and must be treated with "a critical eye" (Warschauer & Ware, 2006, p. 163). Some errors detected by AWE might be misidentified; in other words, some of the errors identified are not really errors and other errors remain unidentified. For the purpose of the current study, we do not aim to validate AWE scoring. On the other hand, our focus is on the corrective feedback provided by *MY Access* in the form of suggestions given to learners and on how such feedback could improve the students' writing when they revise their works in light of these suggestions. Additionally, AWE has been firstly designed to aid native speakers of English who write English prose in their native language (Li & Kunnan, 2016), and little research has targeted English language learners who are not familiar with proper English terms and not exposed to English speaking environments where the English style is unattainable.

In order to examine the effect of *Criterion* on students' writing, particularly by responding to its feedback, a number of studies have been carried out. Attali's (2004) study, for example, reports the results of a large-scale study based on *Criterion* to provide a holistic essay score; feedback on grammar, usage, mechanics, and style. A total number of 9,275 essays were submitted to *Criterion*, which provided feedback to the students who then submitted a revised essay to the program. Data were analyzed from the first and last (of three) essays submitted by US students in the 6th through the 12th grade during the 2002-2003 school year. An overall measure of grammar, usage, mechanics, and style errors were computed by summing the individual error rates, grammar, usage, mechanics, and style errors for each

essay and divided by the essay length to produce an error-rate. Results suggested that overall scores improved and essay length increased for revised submissions compared to the first submission. Similarly, organization and development scores improved and the participants were able to correct at least some types of errors in subsequent versions of their essays.

Lee et al. (2009) developed a system to provide immediate feedback on EFL students' writing as regards content and organization. A comparison was made between essays written by two groups. The experimental group received feedback from the web-based system and the control group typed their essays directly on the computer. It was found that there was no statistically significant difference between the two groups in essay length, or in the final scores given by two human raters.

El Ebyary and Windeatt (2010) examined the potential positive effect of using automated feedback with the help of *Criterion*. The authors sought to examine the trainees' attitudes towards the novel mode of feedback and also investigated both the process of writing and their final product. Quantitative and qualitative data about feedback practice were collected from 31 instructors and 549 Egyptian trainee EFL teachers using pre-treatment questionnaires, interviews and focus groups. A total number of 24 trainees received computer-based feedback using *Criterion* on two drafts of essays submitted on each of the four topics assigned to participants. Data recorded by the software suggested a positive effect on the quality of students' second drafts, subsequent submissions, and post-treatment questionnaires. Similarly, interviews and focus groups showed a positive effect on the students' attitudes towards feedback. In El Ebyary and Windeatt's study, the improvements in students' writing, however, may have been identified partly or mainly due to the novelty (Hawthorne or experimental) effect (McNeill & Chapman, 2005). The authors also argued that issues of writing organization and content were not sufficiently addressed by *Criterion*, and that the errors in language were mainly addressed by the software.

Studies in real classrooms can yield more valid results. However, such research that examines the effect of automated feedback is scarce. Therefore, this study seeks to fill this gap in this area of investigation. Also, to date there is no study that has looked at how a hybrid form of feedback (i.e. automated and teacher feedback) can improve students' writing, and compare this form of feedback with the only one form of feedback (i.e. automated feedback). The current study aims to fill in this gap and contribute to the literature for this under-researched area in written feedback. The study attempts to address the following research questions:

1. What impact can *MY Access!* home edition feedback have on students' writing improvement?
2. What impact can hybrid-mode feedback have on students' writing?
3. Is there any statistically significant difference between the AWE feedback and hybrid mode feedback in improving the students' writing?
4. What are the students' perceptions about the use of AWE feedback on the improvement of their writing?

3. Methodology

3.1. Design

This study opted to use the case study approach to investigate the efficacy of using feedback provided by an automated writing evaluation program for a number of reasons. First, the use of the automated writing evaluation program (*MY Access* writing) has never been used as a pedagogical tool in the educational system in the Saudi EFL context. In fact, the current study context is very likely to be different from other ESL contexts where such an automated evaluation program was used. Therefore, such a different context merits deep investigation. Second, we aimed to investigate and determine what variables could assist us in conducting an experimental study with a larger number of students in the near future when improvements, if any, in the program could be done based on this case study.

3.2. Participants

Twelve EFL Arab students took part in this study. Their proficiency level was intermediate as determined by the placement test administered by the Department of English, Najran University. The proficiency test used was equal to TOEIC. The participants' age ranged from 22 to 24. They had been learning English for at least eight years, including their study at primary and secondary school. All the participants were studying at level 4 (the second semester of the second year of their BA program in English). They were from two different sections of the same level and they were taught by the same teacher (the second researcher). The participants were enrolled in a writing course that aims at teaching how to write an academic essay. All the participants had never been to an English-speaking country, they just learnt English at school and university.

Purposive sampling was used by the teacher/researcher to select the participants. A multiple case study was utilised to find the similarities and differences among the cases and to

increase the reliability of the outcomes. The selection of the participants was based on their academic performance in the teacher's class as well as their academic grade point average (GPA). The researcher selected those participants whose academic GPA was in the range of 3 and 4 out of 5. Based on the academic description of the institution, this range represents good academic performance. This selection was to ensure that all the participants would have the same level of writing proficiency. The participants were briefed about the purpose of the current study. They were assured that participation was voluntary and that the outcome of the study would not have any effect on their grades. A number of participants had attended the first task and then dropped from the study. Only six students completed the two assigned phases of treatments.

3.3. The software program

The software used to gauge students' corrective writing during the assigned sessions was *MY Access*. It is one of the most well-known AWE programs to assist learners in writing skills. "It is a web-based AWE program that uses the Intelli Metric automated essay scoring system. The software, created by Vantage Learning, provides activities for instructors to develop content ideas, organization, language use, help students see other essays that represent different levels of proficiency to understand evaluation criteria, evaluate and grade writing. The program enables students to write their essays and gives them help options such as word bank, feedback, and scoring. Learners can log in the program with their IDs and start recording their input in a file. They can input their essays and save it for later use. Upon automatic scoring provided by the program, the students can polish their inefficiencies and improve the quality of their writing. Figure 1 and Figure 2 are snapshots from *MY Access* program .

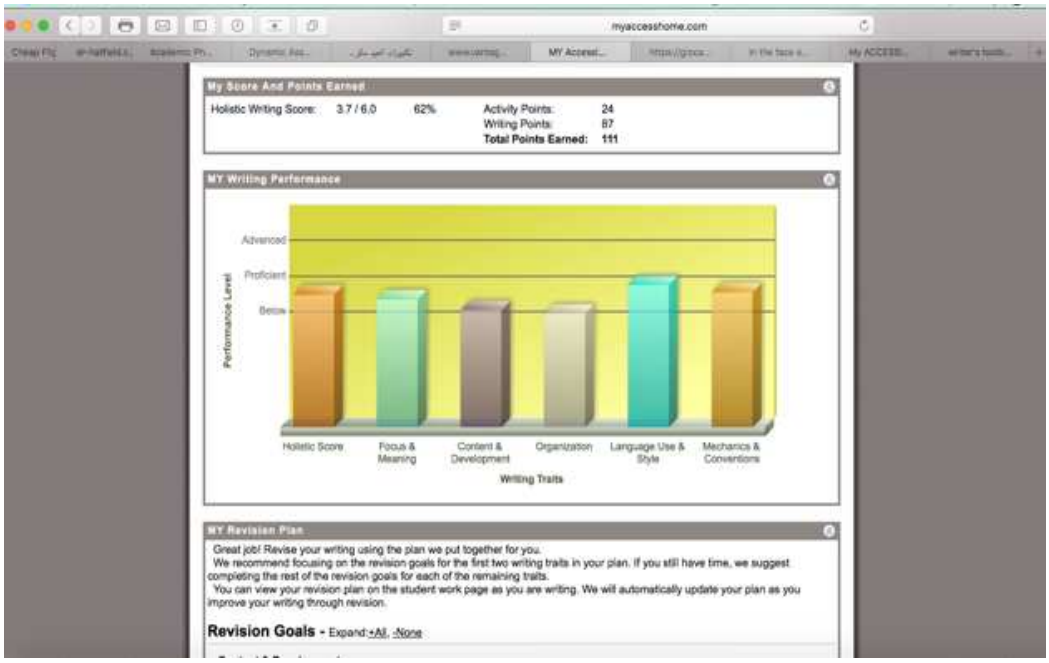

Figure 1. Scoring made by MY ACCESS

Figure 2. Example of essay written in *MY Access* with some available functions

3.4. Study Design and Writing Procedures

This study was run over a period of four weeks and included two phases. The second phase (weeks 3 and 4) was based on the findings from phase 1 (weeks 1 and 2). On Day 1 of the study, the six students were brought to the computer lab at the University and were trained to

use *MY Access* writing by the teacher (the second researcher). The teacher explained the different functions of the program and the ways of responding to the feedback. The students were asked to write an essay on a topic chosen from a list. Since the program offers the writer the option to write on a topic from a multiple of proficiency levels (e.g., 8-10, 11-14, 15-18), the students were advised by the researcher to choose a topic from level 4 to suit their proficiency level.

On Day 2 in the first phase, the students used *MY Access* program to write their first draft and then received feedback immediately from the program. The instructor assigned the following topic "The effect of smoking on health". The students wrote a 3 paragraph-essay on the topic. The instructor chose this topic since the students were familiar with the issue of smoking as it was one of the topics they studied in their textbooks. The students wrote their essays, saved them and then submitted them to the program for feedback. After submission, they immediately received a holistic score out of 6. In the second session, two days after the first session, the students were asked to log into their account and revise their last saved essays. In this session, they were again instructed on how to use *My tutor* to get feedback on their writing content, style, and organization. They were also instructed on how to revise their language errors using *My editor*. Then, the students submitted their second draft and received a holistic score out of 6. The researcher then conducted semi-structured interviews with the students in order to find out how they perceived the program and how it could help them improve their writing.

Based on the findings from phase 1, it was clear that the teacher's oral feedback intervention was necessary in the areas of the students' writing content and organization. Thus, a hybrid mode was used in which the students were required to correct their language errors through *My editor* in the program and received feedback from the teacher only on the area of writing content and organization. In the first session of the second phase, the students wrote an essay of their own choice. Each student chose to write a different topic from the range of proficiency levels (8-10, 11-14, 15-18). These topics were of different genres. For example, some were informative (e.g. a good friend), and some were narrative (e.g. your dreams). After writing their essays the students saved and submitted their work and immediately received a holistic score (a maximum score of 6).

In the second session, the students were instructed to revise their saved drafts in the same manner as they did in the first phase. However, in this stage, they were not instructed to use *My tutor* to receive feedback on their writing content, organization and style. It was rather the researcher who provided them with the necessary feedback. Then, the students submitted

their second drafts and received another holistic score. During the two sessions, the instructor took some notes and conducted interviews at the end of the two sessions.

3.5. Interview

To gain insight into the students' perspective in regards to this new automated feedback, semi-structured interviews were used. The semi-structured interview type was chosen for this study because it offers a balance between the flexibility of an open-ended interview and the focus of a structured and restricted interview.

The aim of the interviews was to investigate in greater depth the students' perceptions regarding the new type of feedback by inquiring about their experiences of using it and their preferences over the type of feedback they used to get in their classroom. The questions comprised three different sets. The first set of questions concerned the students' background regarding their learning of writing and receiving feedback. The second set was related to their experience of using their new type of feedback and the difficulties faced. The third set covered the students' preferences regarding this new automated feedback over the one they used to get in their classroom.

The interviews were conducted at the end of the study in a quiet room. This was done in Arabic (the participants' first language) to assist the students to express their ideas and perceptions more easily; thus, allowing for greater investigation by the researchers. The interviews lasted for about twenty minutes with each student and the students' answers were audio-recorded**.**

4. Results and findings

The results generated by this study were triangulated through administering different data collection tools throughout the study: written tests, semi-structured interviews, observation, note-taking and informal interviews. Quantitative data were collected from the written test while qualitative data were reported from the final semi-structured interviews, the observations, and the informal interviews. Descriptive and inferential statistics were performed to find answers to the research questions of the current study. All the statistical significance level was calculated at .05.

4.1. Quantitative analysis

To answer the first research question which concerns the impact of hybrid feedback on students' writing, students' scores were provided by *MY Access* and are depicted in Table 1 and Table 2 (Note: students are given pseduo-names as to protect their privacy).

Table 1 Students' scores in the First Phase (AWE mode)

Student's name	**1st draft**	**2nd draft**
Ali	2.7	3.2
Ahmad	1.8	2.3
Hussein	2.0	2.4
Wael	1.9	2.2
Tariq	2.6	3.1
Saad	2.1	2.4

Table 2 Students' scores in the Second Phase (Hybrid Mode)

Student's name	**1st draft**	**2nd draft**
Ali	2.8	3.5
Ahmad	2.0	2.8
Hussein	2.2	3.1
Wael	2.1	2.9
Tariq	2.7	3.8
Saad	2.3	2.9

Descriptive statistics were used to see the means and standard deviation for both modes. They are summarized in Table 3.

Table 3.Descriptive statistics for students' scores over AWE vs. Hybrid modes

No.	**Item**	**N**	**M**	**SD**	**SE M**
1	AWE 1	6	2.18	.37	.15
2	AWE2	6	2.6	.43	.17
3	Hybrid1	6	2.35	.32	.13
4	Hybrid2	6	3.16	.39	.16

Table 1 shows that the students' scores improved from the first session to the second one across the two modes of treatment. For the first phase, means scores increased from the first session ($\overline{x}$=2.18, *SD* =.37) to the second one ($\overline{x}$=2.6, *SD*=.43). A paired-t-test revealed that the improvement from the first session to the second session was significant $t(5)$=-10.38, p=.000. Likewise, means scores of the students in the hybrid mode were statistically significant $t(5)$ = -11.6, p =.000. This result suggests that students' writing would significantly improve when

learners were exposed to the second session of treatment where they can revise their input and make use of the feedback from both the program and the instructor.

In order to determine if there was a statistically significant difference between the two types of modes (AWE and hybrid), a paired sample *t*-test was run. Findings show that the students in the hybrid mode ($\bar{x}$=2.75, *SD*=.39) significantly outscored the same students in the AWE mode ($\bar{x}$=2,39, *SD*=.40, *t*(5)= -9.64, *p*=.000. This reveals that the hybrid mode was beneficial for evaluating students' output and would advance the students' writing skills.

4.2. Qualitative analysis

The data collected from the interviews and observations while the students performing their writing tasks and responding to the feedback provided by the program and the semi-structured interviews provided insight into the students' perceptions and experience of using this new program of providing written feedback. The second researcher interviewed the students about their use of the new program in teaching L2 writing. The findings indicated that it was a new experience for the learners to write an online essay and to get feedback from both the AWE program and the instructor. The learners showed their great interest in *MY Access* program, especially *My editor*. However, in their response to the benefits they got from different functionalities of the program, they mentioned that they did not benefit from the toolbox features such as word bank, although the instructor repeatedly recommended using this feature. This could possibly be explained by the fact that students had little exposure to the new unfamiliar program. Instead, students preferred to use their well-known dictionary apps in their phones to look up new words. Moreover, the participants expressed the difficulty in understanding the feedback on their writing content and organization that is provided by the feature of *My tutor*, except the feedback provided on their writing accuracy that is provided by the feature of *My editor*. In the second phase of the study, in which the teacher intervened and provided feedback on the students' writing content and organization, the students reported that the feedback provided by the teacher (on content and organization) was clearer and dialogic as compared to the feedback provided by the program (*My tutor*) on content and organization.

5. Discussion

The findings reported in this study suggest an obvious improvement in the students' second draft scores during the second phase compared to the second draft scores in the first phase. This can be attributed to the effectiveness of using the hybrid mode on students' final score.

The findings of the current study support the previous findings in that AWE immediate feedback could help students improve the quality of their writing skills to an acceptable level (Attali, 2004; Lavolette et al, 2015) and human intervention could ensure the accuracy of AWE programs. *MY Access* helped the participants polish out the mechanical errors such as spelling, grammar, and punctuation. However, it failed to correct clarity, coherence, and ambiguity of writing which a human can only do. The instructor evaluated the students' output and made sure that the ideas were well-organized, their works were free from ambiguity and the ideas were made crystal clear. This enhances the notion that technology can assist instructors in acquiring second language but we cannot fully rely on it or we cannot replace human instructors (Chapelle, 1999).

The findings from the observation notes and the final interviews could provide an explanation to this claim. The students argued that using *My tutor* could be intimidating as it provided complex instructions. This can obviously be understood given that the feedback on content and organization was both not specific and very long. In fact, this feedback requires the student to go through multiple stages and would need considerable time to complete. This would be difficult for an intermediate level of English proficiency who studies English as a foreign language. The researcher's own observation confirmed the students' perceptions regarding the complexity of instructions provided by *My tutor*. When the participants attempted to use *My tutor,* they could hardly follow the instructions that involved a number of steps. In other words, *My tutor* involves detailed explanations and it refers the students to other activities that may take a long time to complete.

Furthermore, the findings from the interviews and observation notes indicate that feedback provided specifically by *My tutor* is very general and is not tailored to the specific needs of the student's own essay. This is not surprising given the fact that these instructions are provided by a computer, which lacks personal interaction with the learner. This finding corroborates Stevenson and Phakiti's (2014) report about the difficulties of using automated writing systems for providing feedback to meet the learner's specific needs.

In contrast, the feedback provided by the instructor was dialogic and was tailored to each student's own needs. The instructor was able to help overcome the difficulties that the participants faced while completing the writing assignments. In order to further assist the learner, the instructor used the students' mother tongue (Arabic) as needed. The use of Arabic helped overcome difficulties and enabled students to understand different aspects of writing including organization and content.

6. Conclusions, limitations and suggestions for the future research

The study findings prove that the use of the software program can help students improve their writings from the first session to the second one in the two scenarios. The students benefited much from the hybrid mode where the instructor gives his/her feedback more than the program's feedback. This suggests that L2 instructors are advised to delay corrective feedback from the program but to give their own one. Integration of human instructors may diminish the faults and inefficiency of the AWE programs.

The study has some limitations because of the small sample size. Therefore, future studies should use a large number of participants. Future research should track the students' activities when exposed to writing through AWE to find out how their performance is correlated with students' interactions with the immediate feedback provided by AWE programs, and whether many activities could lead to optimal writing output.

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References

Attali, Y. (2004). Exploring the feedback and revision features of *Criterion*. Paper presented at the Paper presented at the National Council on Measurement in Education, San Diego, CA.

Chapelle, CA. (1999). Research questions for a CALL research agenda: A reply to Rafael Salaberry. *Language Learning & Technology*, *37*(1), 108-113.

Chen, C. F. E., & Cheng, W. Y. E. C. (2008). Beyond the design of automated writing evaluation: Pedagogical practices and perceived learning effectiveness in EFL writing classes. *Language Learning & Technology*, *12*(2), 94-112.

Coniam, D. (2009). A comparison of onscreen and paper-based marking in the Hong Kong public examination system. *Educational Research and Evaluation*, *15*(3), 243-263.

Coniam, D. (2009). Experimenting with a computer essay-scoring program based on ESL student writing scripts. *ReCALL*, *21*(2), 259-279.

Dmytrenko-Ahrabian, M. O. (2008). *Criterion* online writing evaluation service case study: Enhancing faculty attention and guidance. *International Journal of English Studies*, *10*(2), 121-142.

El Ebyary, K., & Windeatt, S. (2010). The impact of computer-based feedback on students' written work. *International Journal of English Studies*, *10*(2), 121-142.

Hamp-Lyons, L., & Lumley, T. (2001). Assessing language for specific purposes. *Language Testing*, *18*(2), 127-132.

Herl, H. E., O'Neil Jr, H. F., Chung, G. K. W. K., & Schacter, J. (1999). Reliability and validity of a computer-based knowledge mapping system to measure content understanding. *Computers in Human Behavior*, *15*(3-4), 315-333.

Hoang, G., & Kunnan, A. J. (2016). Automated writing instructional tool for English language learners: A case study of *MY Access*. *Language Assessment Quarterly*, *13*(4), 359-376.

Kozna, R. B., & Johnston, J. (1991). The technological revolution comes to the classroom. *Change*, *23*(1), 10-22.

Lai, Y.-H. (2010). Which do students prefer to evaluate their essays: Peers or computer program. *British Journal of Educational Technology*, *41*(3), 432-454.

Lavolette, E., Polio, C., & Kahng, J. (2014). The accuracy of computer-assisted feedback and students' responses to it. *Language Learning & Technology*, *19*(2), 50-68. Retrieved 1 January 2019 from http://llt.msu.edu/issues/june2015/lavolettepoliokahng.pdf

Lee, C., Wong, K., Cheung, W., & Lee, F. (2009). Web-based essay critiquing system and EFL students' writing: A quantitative and qualitative investigation. *Computer Assisted Language Learning*, *22*(1), 57-72.

Liu, S., & Kunnan, A. J. (2016). Investigating the application of automated writing evaluation to Chinese undergraduate English majors: A case study of WriteToLearn. *CALICO Journal*, *33*(1), 71-91. https://doi.org/10.1558/cj.v33i1.26380

McNeill, P., & Chapman, S. (2005). *Research Methods*. London: Taylor & Francis Ltd.

O'Neil, H. F., & Schacter, J. (1997). Test specifications for problem-solving assessment. *CSE Technical Report 463*. Los Angeles: Center for the Study of Evaluation.

Rudner, L., & Liang, T. (2002). Automated essay scoring using Bayes' Theorem. *The Journal of Technology, Learning, and Assessment (J.T.L.A)*, *1*(2), 1-22.

Shermis, M., & Burstein, J. (2003). *Automated Essay Scoring: A Cross Disciplinary Perspective*. Mahwah, NJ: Lawrence Erlbaum Associates.

Stevenson, M., & Phakiti, A. (2014). The effects of computer-generated feedback on the quality of writing. *Assessing Writing*, *19*(1), 51-65.

Truscott, J. (1999). The case for grammar correction in L2 writing classes: A response to Ferris. *Journal of Second Language Writing*, *8*(2), 111-122.

Tuzi, F. (2004). The impact of e-feedback on the revisions of L2 writers in an academic writing course. *Computers and Composition*, *21*(2), 217-235.

Ussery, R. (2007). *Criterion Online Writing Evaluation Case Study: Improving Writing Skills across the Curriculum*. Retrieved 11 August 2009 from http://www.ets.org/Media/Products/Criterion/pdf/4216_NCarol3.pdf

Warschauer, M., & Ware, P. (2008). Learning, change, and power. In J. Coiro, M. Knobel, C. Lankshear, & D. J. Leu (Eds.), *Handbook of Research on New Literacies* (pp. 215-239). Mahwah, NJ: Lawrence Erlbaum Associates.

TELEGRAM: AN INSTANT MESSAGING APPLICATION TO ASSIST DISTANCE LANGUAGE LEARNING

(App Review)

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Application Description

Publisher: Telegram

Product type: Application software for smartphones, PCs and laptops

Language(s): Multilingual

Level: Any

Media format: Web-based, desktop app, and smartphone app

Operating systems: Windows Phone, Windows Desktop, Android, Mac, iOS, Linux, OSX

Hardware requirements: Minimum smartphone hardware, Internet connection

Supplementary software: None

Price: Free

1. Introduction

Today, the internet is making second and foreign language learning much easier than before. The emergence of online messaging applications has drastically changed online language learning and has provided a more accessible venue for learning. Similarly, what makes these online environments distinct from each other is the rate of learners' engagement with the applications (Sutikno, Handayani, Stiawan, Riyadi & Subroto, 2016; Takeda, 2014; Wagner, 2007, 2010). The arrival of modern, interactive, and user-friendly technological advances such as blogs, wikis, portfolios, podcasts, and vodcasts has changed the studying habits of learners since they minimize the burdens of traditional classes in which one needs to be physically present (Faramarzi, 2018; Faramarzi & Bagheri, 2015)

Distance language learning is on the path of progress as far as learners' interests are evolving. The use of different technological devices such as Telegram makes e-learning

platforms more distinct. This dynamic setting requires a robust stage to be presented to language learners. For example, the capacity of presenting different file formats such as PowerPoint files, illustrations, audio/video files, Macromedia and animated files simultaneously is something which is the focus of attention of many language educators and curriculum designers. At the same time, the system of evaluation and ongoing assessment can be made much more convenient by using Telegram (Elekaei, 2018; Faramarzi, 2018) due to the interactive nature of this online environment.

The effect of Telegram on developing vocabulary has been previously investigated by several researchers (e.g. Elekaei, 2018; Ghobadi & Taki, 2018; Heidari Tabrizi & Onvani, 2018; Khodarahimi & Heidari-Shahreza, 2018; Movafagh Ardestani, 2017), as well as on grammar (Nabati, 2018), reading comprehension (Azadi and Azad, 2017) or integrated skills (Faramarzi, 2018). Attitudes towards Telegram application have been the subject of many studies (e.g. Karimov & Kim, 2017; Faramarzi, Heidari Tabrizi, and Chalak, forthcoming-2019a; Faramarzi, Heidari Tabrizi, and Chalak, forthcoming-2019b; Khoshsima, Saed, & Arbabi, 2018).

Successful second and foreign language learning should follow some simple steps according to Pufahl, Rhodes, and Christian (2001): early start of the learning program, teacher training improvement, longitudinal study programs, and understanding the use of instructional technology are the major contributing factors for achieving the best results in any pedagogical program. It clearly highlights the significance of implementing new technologies in pedagogy. Besides, Larsen-Freeman and Anderson (2015) consider technology as an innovative factor. Moreover, since university students spend more time playing video games, watching TVs, working with educational or entertaining applications, and checking their accounts in different online societies such as Facebook and Twitter than reading books (Prensky, 2001), it will be very appealing to combine the intended learning materials into today's most fashionable trends such as Telegram.

The purpose of this review is to demonstrate the pedagogical potential and features of Telegram application and the ways it can be employed in online language learning projects by learners and educators alike. This app is free of charge and advertisement-free and it can be employed by learners from all levels. At the same time, it is a dynamic environment which can be customized in accordance to learners' needs. This application has been analyzed and evaluated as part of two PhD dissertation projects to test different features of the app and the learners' responses to them (Elekaei, 2018; Faramarzi, 2018).

2. Description

The Telegram application is compatible with different operating systems and different devices. The appropriate operating system should be selected from the website (see Figure 1). Additionally, it can be used in a web-based domain where installation is not necessary. Other than English, seven other languages are also supported. Signing up to the system is very easy as it only requires the mobile number and the verification code which is later sent to the user via a text message. After logging into the system, the application can be customized in terms of the appearance and security settings. Moreover, the application has the capacity of importing the contacts from the users' phone book.

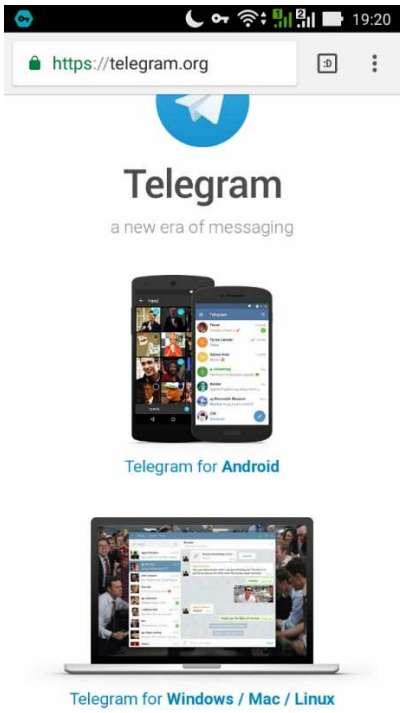

Figure 1. How to access the Telegram application

Telegram emphasizes speed and security as it is very easy to use, fast in uploading and downloading files, and easy to connect with your fellow members. Furthermore, its cloud-based system ensures permanent access to the files which are exchanged across different channels and groups. Moreover, it is capable of synchronizing encrypted data across multitude of independent data centers. Figure 2 shows the flexibility of Telegram in starting conversations with different people and among different channels.

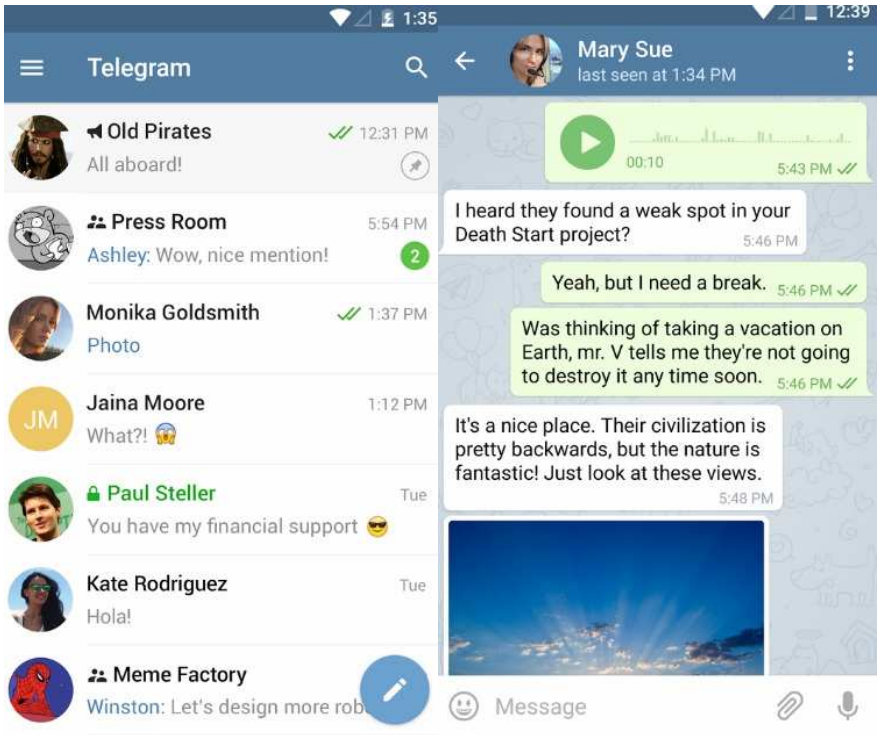

Figure 2. The accessibility of Telegram channel

There are many features worthy of mentioning which make Telegram distinct from other software and establishes it as a leading device for distance language learning.

2.1. Safety and security

First, this application ensures the cyber security of users since Telegram messages are encrypted and the app has the capability of self-destruction. As it can be seen in Figure 3, the secret chats can be self-destructed without any interference. This allows learners to be more extrovert and cooperative in doing the tasks because users should no longer be worried about the mistakes they might make since the exchanged messages can be easily rectified. This allows learners to express themselves freely because the messages can be corrected at any time.

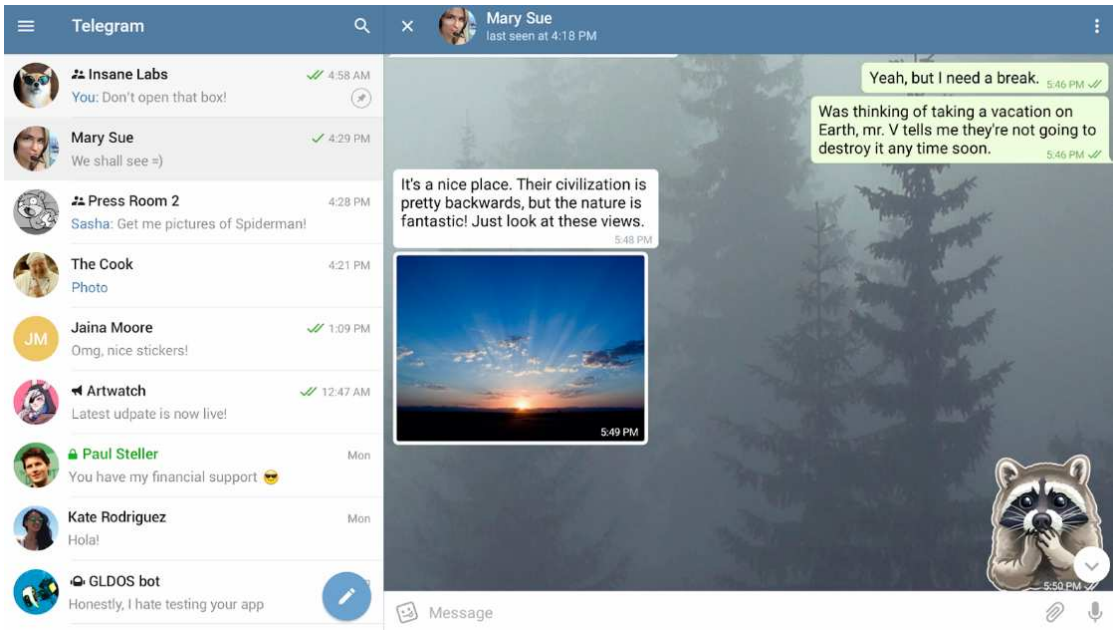

Figure 3. Self-destructed encrypted secret chats

2.2. The Seamless Network

It is possible to use Telegram on different devices simultaneously, for example, on both a smartphone and a laptop. This helps the continuation flow of getting the information from different resources without any interruption. In other words, a learner can start getting the information on their laptop and continue doing so on their mobile phone if they want to get out of the house.

2.3. Access to channels and groups

Once a Telegram user is signed up, they have access to a wide variety of channels and groups particularly the language learning ones. The channels and groups can either be searched parametrically or accessed by having an invitation link (see Figure 4). Unlike some other virtual societies and websites, access to channels, discussion groups, and online classes can be made much easier with a little search about the topic of interest. Moreover, joining channels and groups is free of any premium charges. Every teacher and/or learner can construct their own channels and groups and invite their students to start interacting in an online environment.

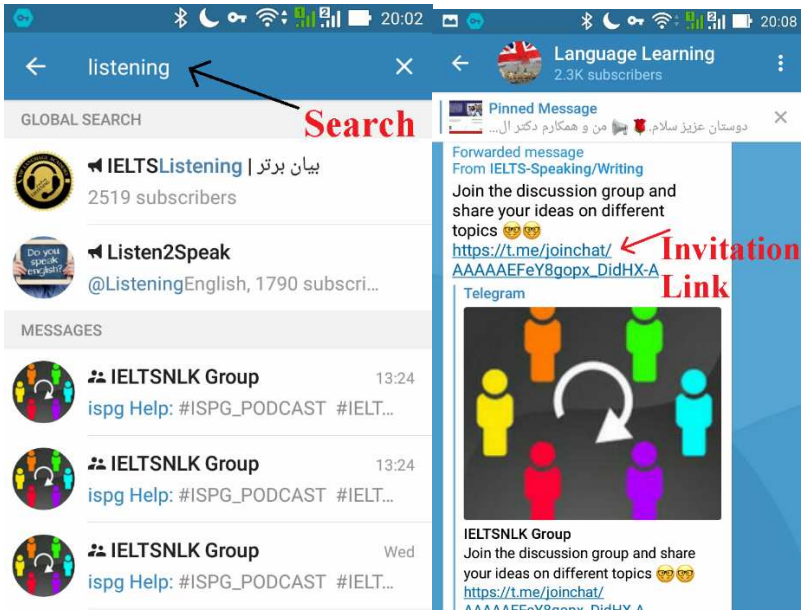

Figure 4. Finding groups and channels in Telegram

2.4. Supporting files with various extensions and sizes

Telegram has the capability of supporting all file formats including, but not limited to, doc, zip, ppt, mp3, mpeg, etc. This is very important for distance language learning since teachers and learners need a robust and dynamic environment to send and receive files with different extensions. Moreover, there is no restriction over the size of files which are exchanged. Files up to 1.5 GB can be exchanged in any discussion forum. Selecting a file from the gallery or saving a file to the hardware requires a single touch or click. Figure 5 shows how to choose files from different sources and extensions which obviates the necessity of installing other applications. For example, the teacher can send a multimedia file with any extension and upload it to a group. All group members can download it for free and share their opinions about it. Learners can also express their own opinions by sharing files. All this maximizes interaction among learners and encourages them to do the tasks collaboratively.

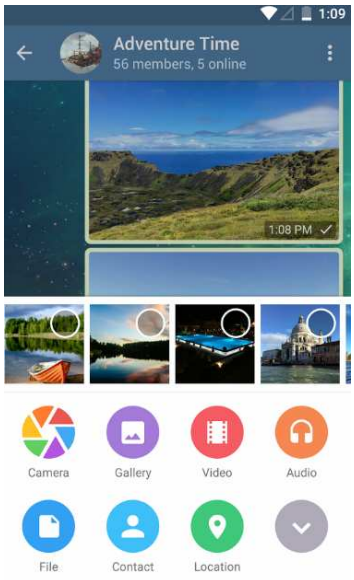

Figure 5. Telegram supports all different file formats

Telegram is a versatile multifunctional online application, with its channels and groups catering for most purposes of their users. Every individual user can create unlimited groups for up to 100,000 members and channels with an unlimited number of members. A group is a combination of email service, text messaging app, multimedia messaging app, online forum discussion, and systematic educational robots. Therefore, it can take care of personal, educational, and business needs all at the same time. Once the members are added to a group, they can be guided by the admin users of the group (usually the online instructors or the researchers and their assistants) to accept the rules of the group (see Figure 6). Depending on the purpose of the group, members are briefed on how to make use of the presented materials within an already determined framework.

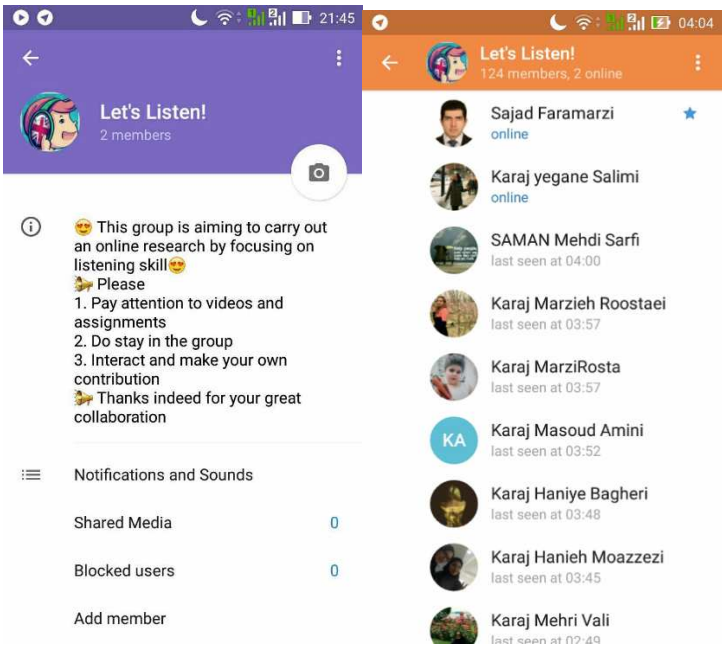

Figure 6. Group construction for an educational group

2.5. Assigning tasks to learners

By using a group, a wide range of meaningful and challenging tasks can be presented to learners. This application endorses podcasts from a wide range of domains: video podcasts for teaching grammar, vocabulary, pronunciation, listening, reading comprehension, formative writing tasks, speaking, etc. In a longitudinal study, Faramarzi (2018) assigned various integrated listening and speaking tasks in Telegram to measure the effect of video podcasting tasks on the development of listening comprehension of EFL learners. The Telegram users demonstrated increased performance in doing integrated tasks comparing to that of non-users. The participants in the study mentioned Telegram as a powerful device for improving their major skills and sub-skills. Figure 7 shows the video grammar podcasts and how the tasks were presented.

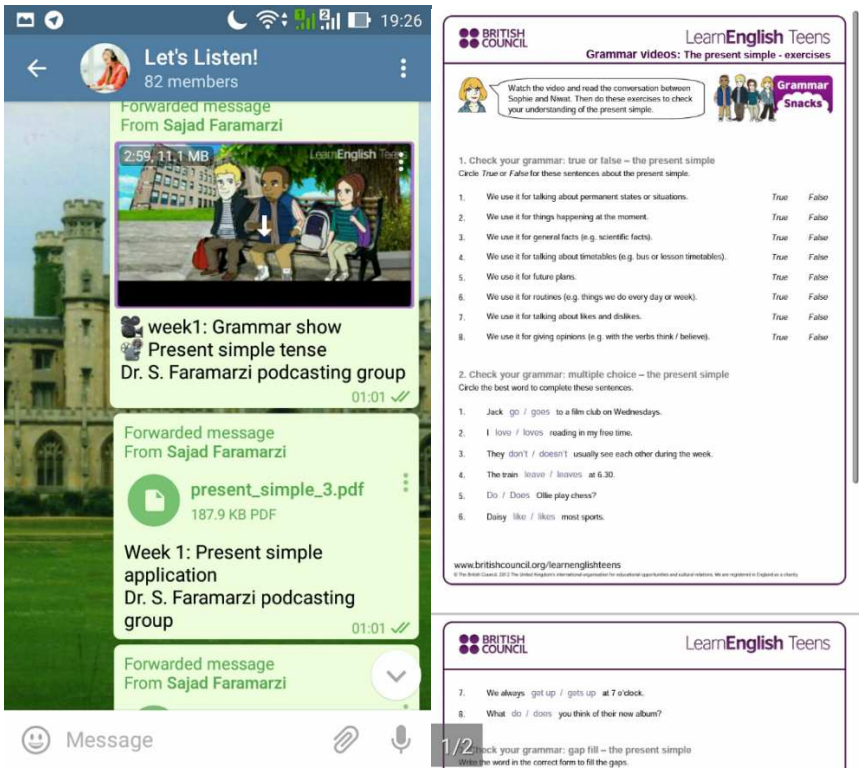

Figure 7. Grammar video podcasts and tasks

2.6. Using helpful robots

One of the most important characteristics of Telegram which makes it really different from other distance education programs is the existence of robots or so-called ‘bots’, which can encourage learners to be self-reliant and independent. The idea of getting help from robots can stimulate an initiative sense especially for introverted learners. Additionally, inquisitive learners can challenge their peers by getting some information from robots. In other words, by having access to a great range of robots, learners can become more independent and discover the materials by themselves. Figure 8 shows Andy’s chatting robot which makes language discussion practice more lively for learners, particularly beginners who might be interested in finding out reactions of a native speaker to specific questions. In responding to learners, the robot matches its answers to the linguistic level of the questions.

Figure 8. Andy English bot

The following robots are among the few language related robots which can be used by learners from all language levels:

A. Pronunciation bot helps learners to check the pronunciation of words on the spot and even get the phonetic notation of the words and messages. Therefore, there is no need to use a dictionary while reading a passage (see Figure 9).
B. Telewitter robot provides an opportunity to check the twitter account on the go (see Figure 9). The idea behind creating such a robot is to have access to the social network continuously.
C. Cloudfile robot can save received files in one's drop box account or other cloud-based system (see Figure 9). Even though Telegram has got its own cloud system, some members might be interested in saving the files somewhere else.

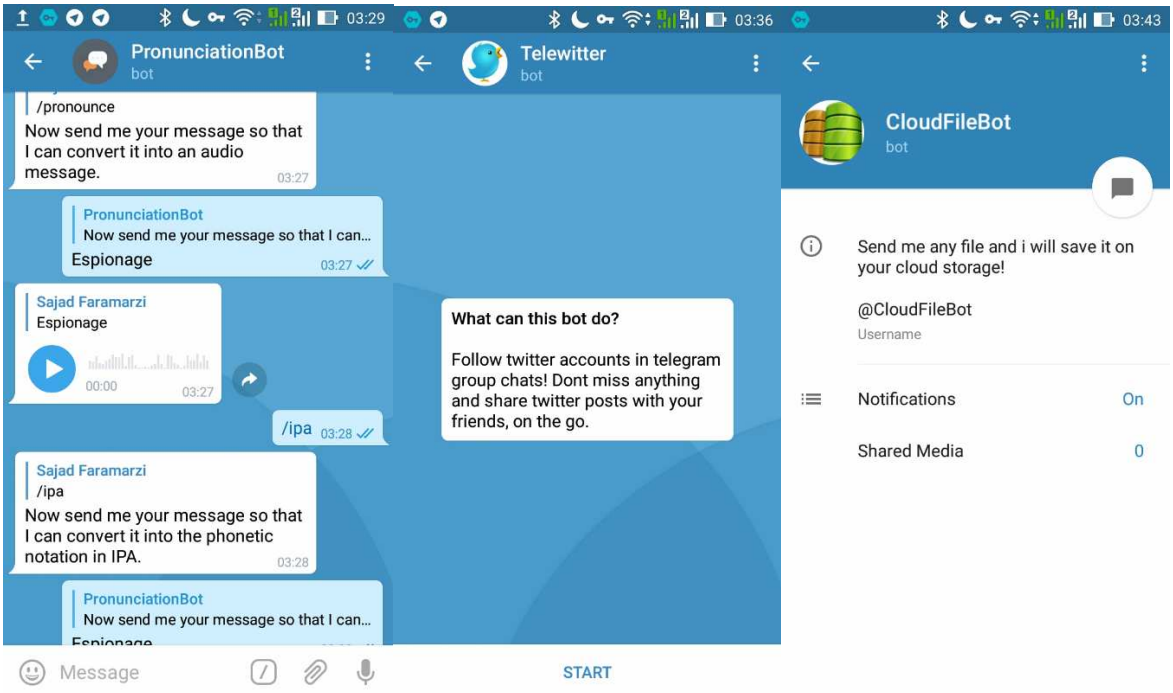

Figure 9. PronunciationBot, Telewitter bot, CloudFileBot

D. Umad robot provides great animated pictures and learners can use these GIF files in their conversational exchanges to make their conversational exchanges much more exciting (see Figure 10).
E. Study robot covers a wide range of subjects by teaching different aspects of language, geography, world history and so on. Also it measures different areas of English like IELTS, TOEFL, SAT and IAS mock tests (see Figure 10).
F. Wiki robot is capable of searching articles in any chat box or forum. It is a great way of sharing information with others without any interruption. The significance of this robot is to have something to say any time one gets involved in a conversation exchange (see Figure 10).
G. Voicy robot changes the voice messages and converts them to text messages accurately. It can be very helpful for learners to get involved in a conversation whose total understanding might seem to be difficult (see Figure 11). This is also beneficial for learners who like to transcribe the talks from video conferencing or live speeches. This robot puts the learners in a comfort zone that no single material will be lost.
H. Abadisdic bot gives learners access to dictionaries and encyclopedias in an online environment (see Figure 11).

I. Vote bot enables instructors to conduct a survey and get feedback from students through Likert scale questionnaire system (see Figure 11). The voting robot can undo a vote if one chooses an alternative by mistake, or one wants to change their mind about a point.

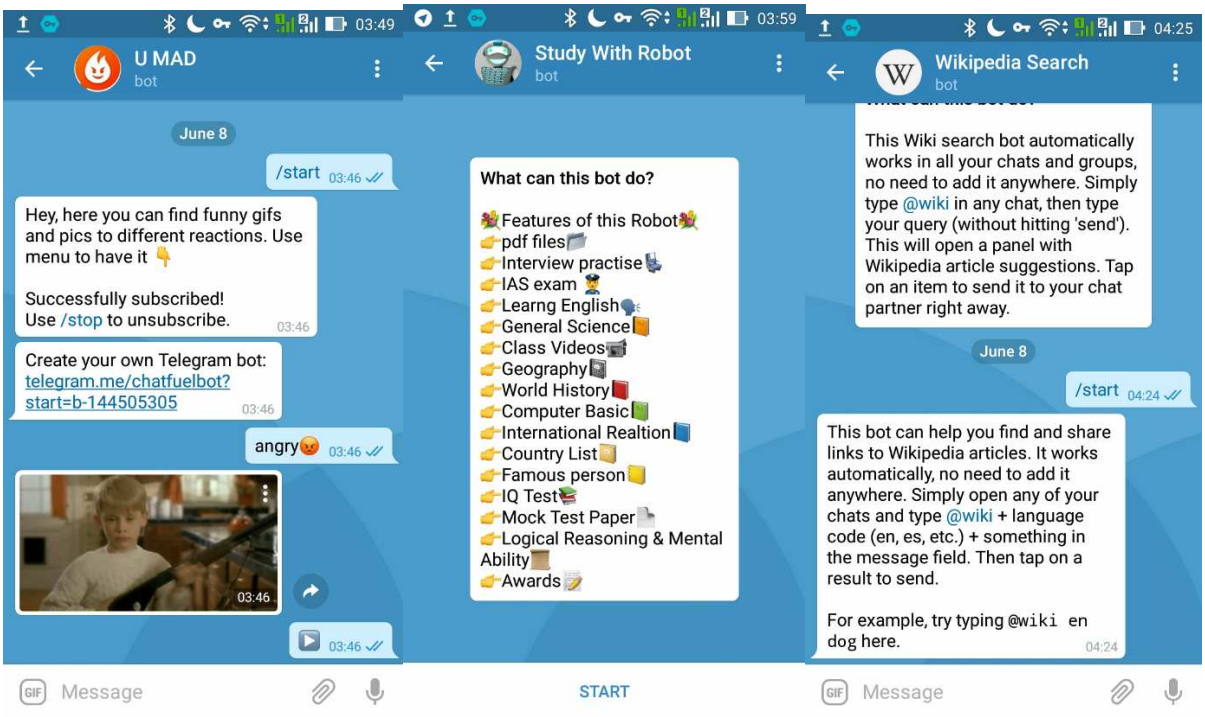

Figure 10. Umad robot, Study bot, WikiBot

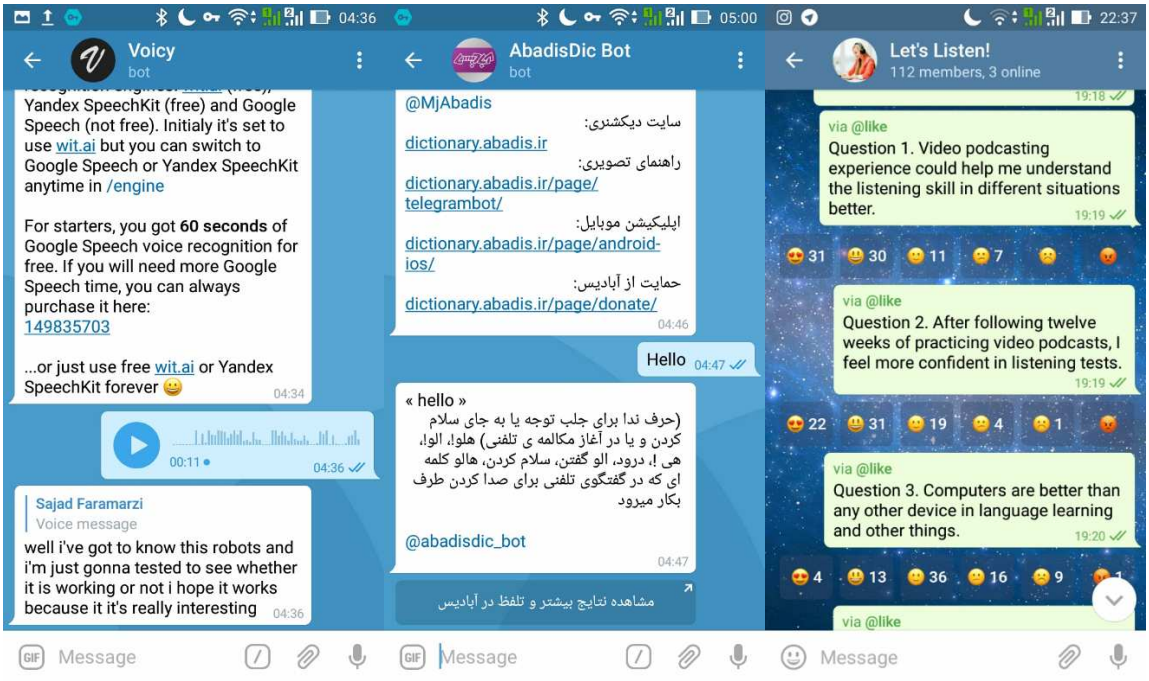

Figure 11. Voicy robot, abadisdic bot, Vote Bot.

There are many advantages in using robots in online classes. Above all, the biggest advantage for the instructor or the learner is they can create their own tailor-made robot for free, customize its application, and introduce it to the target audience. BotFather is a robot which makes it possible for everyone to establish a new robot by following simple steps (see Figure 12).

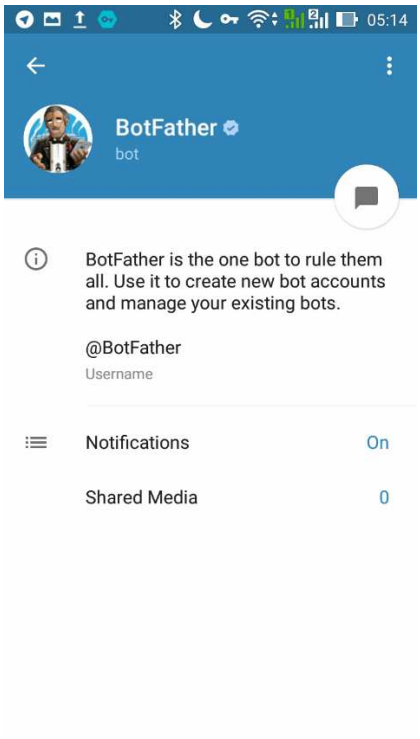

Figure 12: BotFather robot constructor

3. Comparison with other similar applications

Unlike some other e-learning applications such as WiziQ, Telegram is free. Creating an account is simple and only requires following a few steps. It is safe and it can be operationalized seamlessly by using different devices. The customized adjunct robots are not available in any other application. In spite of having a massive cloud-based system, it works very fast. Communication has been made easy as far as recording the voice and videos is very simple.

Something which is almost nonexistent in other distance language learning programs is the ability to find and join different channels and groups based on the topic of interest. Moreover, the application is free from any disturbing advertisement. The two-step verification made the security setting confidential. Maximum collaborative learning, peer correction, and discovery learning are among the best features.

4. Evaluation

Telegram is a free application can be used for online language learning programs that possesses major advantages to facilitate the process of learning. It is one of the most downloaded messaging apps that is constantly updated and new features are being added to every day. Some studies (e.g. Elekaei, 2018; Faramarzi, 2018) revealed the educational potential of Telegram as a tool to pursue online language learning programs by showing statistically significant results in listening progress of L2 learners, vocabulary gain, vocabulary retention, autonomy, and learning strategy training.

In using the app, various languages are supported at the moment, which makes it easy for beginner learners. The app and the robots are very user-friendly. However, learners need to be trained in how to get the most of the features like groups, channels, robots, etc. The application has its own format of recorded voices which takes some volume. The fast built-in video recorder allows the users to be in contact with each other.

The main objective of this app is to encourage collaborative learning and pursue the negotiation of meaning. Therefore, learners can help each other without any inhibitory feeling. Moreover, they can be engaged in different features of the app for many hours and it is a wonderful tool to develop learner-centered pedagogy. The dictionary robots, testing robots, pronunciation-checking robots, and chatting robots are some of the interesting functionalities that can help accomplish these aims.

The Telegram application possesses a great aptitude of troubleshooting the learners' problems. There are three ways of solving the problems in Telegram: discovery learning by using robots, peer correction by exchanging information with peers, and by getting help from the instructor. This encourages learners to be more inquisitive while learning.

In addition, this application provides an opportunity for instructors to continuously monitor the learners' progress. As a result, it is much simpler to recognize learner's needs and accommodate the pace of instruction with their learning outcomes.

However, the application needs to be revised and moderated by web-developers and robot designers in several aspects as far language learning is concerned. The necessity of video chats and live video conferencing options which of course is promised by the Telegram owners to be included in later updates is one of its drawbacks. Additionally, language educators and curriculum developers should be fully trained and briefed about the potential of the app. As far as the role of instructors is concerned, they need to be trained about the app's features. The major commitment is to acquaint students about the functionalities of Telegram and its interactive resources. Overall, a learner can practice taking a leading role of a self-starter and

act as a team player, which can improve their interpersonal intelligence. However, not all learner are actually ready to take up such a learning role.

5. Conclusions

The Telegram application, a free online app, has everything in itself: a massive cloud-based storage system to keep the files, a venue for organizing collaborative online classes, dozens of robot assistants, and the capability of making one's own customized robot for any particular purpose. Therefore it is a compact device that obviates the need of using other applications. Its versatility and user-friendliness made it specifically popular among teachers and learners from all levels.

One feature of Telegram is its capacity to change its function based on the needs of the learners. Working on different skills and sub skills in Telegram is very easy but it depends on considering some educational provisions. As many distance language learning programs require online contact between the instructors and the students, the educational policy must facilitate the possibility of coordinating a communicative link to get the job done. To put it more simply, the macro policy necessitates the instructional programs to acknowledge Telegram as an acceptable virtual society. Also, the broadband internet connections should be made accessible.

However, there are many untapped potentials worthy of being considered in further studies. Testing the students' abilities in different skills such as speaking, reading and writing together with the computerized form of examinations in Telegram can be the target of future investigations. In terms of writing, the dynamic process of writing and the amount of learner's engagement with the texts along with the statistical analysis of the results of the tests could also be investigated in future studies.

References

Azadi, M., & Azad, M. (2017). On the effect of mobile and electronic learning (ME learning) on reading rate and reading comprehension of Iranian elementary EFL learners. *Proceedings of the 15th International TELLSI Conference.* Islamic Azad University, Roudehen Branch, Tehran, Iran. Retrieved 1 March 2009 from http://tellsi15.conference.riau.ac.ir/Files/News/Azadi%20&%20Azad.pdf

Elekaei, A. (2018) *Using Vocabulary Podcasts Tasks to Improve Iranian EFL Learners' Vocabulary Gain and Retention in an E-learning Project: Attitude, Autonomy, and Language Learning Strategies in Focus.* Unpublished Doctoral Dissertation. Isfahan, Iran: Islamic Azad University, Isfahan Branch.

Faramarzi, S. (2018). *The Impact of Vodcasting Tasks on Iranian Intermediate EFL Learners' Listening Comprehension, their Engagement, and their Attitudes in an E-learning Project.* Unpublished Doctoral Dissertation. Isfahan, Iran: Islamic Azad University, Isfahan Branch.

Faramarzi, S., & Bagheri, A. (2015). Podcasting: past issues and future directions in instructional technology and language learning. *Journal of Applied Linguistics and Language Research*, *2*(4), 207-221.

Faramarzi, S., Heidari Tabrizi, H., & Chalak, A. (2018) Exploring the impact of exposure to vodcasting tasks on EFL listening comprehension progress in an online program. Manuscript submitted for publication.

Faramarzi, S., Heidari Tabrizi, H., & Chalak, A. (2018) Learners' perceptions and attitudes towards L2 vodcasting tasks in an e-learning project. Manuscript submitted for publication.

Ghobadi, S., & Taki, S. (2018). Effects of Telegram stickers on English vocabulary learning: Focus on Iranian EFL learners. *Research in English Language Pedagogy*, *6*(1), 139-158.

Heidari Tabrizi, H., & Onvani, N. (2018). The impact of employing Telegram app on Iranian EFL beginners' vocabulary teaching and learning. *Applied Research on English Language*, *7*(1), 1-18.

Karimov, O., & Kim, H. (2017). Factors of UTAUT affecting the use behavior based on Telegram application in Uzbekistan. *Asia-Pacific Journal of Multimedia Services Convergent with Art, Humanities, and Sociology, 7*(12), 831-840.

Khodarahmi, Z., & Heidari-Shahreza, M. A. (2018). Effect of MALL on the acquisition of word stress patterns of English by Iranian EFL learners: The case of Telegram. *Journal of Applied Linguistics and Language Research*, *5*(1), 40-55.

Khoshsima, H., Saed, A., & Arbabi, M. A. (2018). Online teachers' attitudes toward using technology in teaching English as a foreign language. *Journal of Applied Linguistics and Language Research, 5*(2), 134-148.

Larsen-Freeman, D. & Anderson, M. (2015). *Techniques and Principles in Language Teaching*. (3rd ed.). New York: Oxford University Press.

Movafagh Ardestani, E. (2017). The effect of using Telegram messenger on vocabulary learning of Iranian EFL learners. *Language Education Studies*, *3*(4), 1-9.

Nabati, A. (2018). Teaching grammar through social networks and its effect on students' writing accuracy. *Biannual Journal of Applications of Language Studies (JALS), 11*(1), 125-146.

Prensky, M. (2001). Digital natives, digital immigrants part 1. *On the Horizon*, *9*(5), 1-6.

Pufahl, I. U., Rhodes, N. C., & Christian, D. (2001). Foreign language teaching: What we can learn from other countries. *Learning Languages*, *6*(2), 4-13.

Sutikno, T., Handayani, L., Stiawan, D., Riyadi, M. A., & Subroto, I. M. I. (2016). WhatsApp, Viber and Telegram Which is best for instant messaging? *International Journal of Electrical and Computer Engineering (IJECE), 6*(3), 909-914.

Takeda, M. (2014). *The Effect of Podcast Tasks on Students' Engagement and Performance in a Beginning Level Japanese Language Course*. Unpublished Doctoral Dissertation. Cullowhee, NC: Western Carolina University.

Wagner, E. (2010). The effect of the use of video texts on ESL listening test-taker performance. *Language Testing. 27*(4) 493-513.

Wagner, E. (2007). Are they watching? An investigation of test-taker viewing behavior during an L2 video listening test. *Language Learning and Technology, 11*(1), 67-86. Retrieved 1 March 2009 from http://llt.msu.edu/vol11num1/pdf/wagner.pdf.

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