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## FROM THE EDITOR

by **Jarosław Krajka**

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The first wave of COVID-19 over, the first wave of massive online/blended/distance education over as well. While we are waiting for the second wave of both, reflection on how to transform language teaching into the technology-assisted mode is needed to better serve teachers and students in those hard times.

Interestingly enough, the 3-month period of online language teaching showed a need for resources, activities and tools that are less cutting-edge and less high-tech, but which might be more accessible to students in underresourced contexts. Such tried-and-tested concepts as WebQuest, LearningApps, Genial.ly, or even email-based teaching, are witnessing revival and renewed teachers' interest. It is very often the case that an "old" technology might gain new impact due to unorthodox instructional design or classroom grouping.

We are trying to respond to those contemporary educational challenges, mixing the theoretical with the practical, the cutting-edge with the traditional. *Teaching English with Technology* is always open to diverse teaching views, frameworks and proposals that find its application in the classrooms all over the world.

The July issue of our Journal tries to rejuvenate the well-tested concept of WebQuest in a contribution by **Ghada Awada** (Lebanon) and **Jack Burston** (Cyprus) entitled "Effect of Learner Proficiency Levels on Methodological Effectiveness: Case of STAD and WebQuest (STADIBTM)". The study showed the critical importance of integrating Student Team Achievement Division (STAD) and WebQuest on developing the advanced-level argumentative writing skills of L2 English university students. Most importantly, the study proved how the initial learner proficiency levels correlated with improvements in the specific areas covered by the evaluation rubric that guided the collaborative writing activities of experimental group students.

Using technology to enhance writing skills is the topic of one more contribution in this month's issue, "Integrating Instagram into EFL Writing to Foster Student Engagement" by **Octana Ayu Prasetyawati** and **Priyatno Ardi** (Indonesia). The study showed that *Instagram*

promoted student engagement by allowing the students to be more actively involved in the learning process, providing a new learning environment for the students, providing wider target audience, allowing the collaboration and interaction between the students, and enabling the students to choose their own learning style during the process of writing.

While pondering on the effectiveness of technology-assisted education of oral skills, **Ruba Fahmi Bataineh, Anwar Solaiman Migdadi and Muhammad Khalid Al-Alawneh** (Jordan) examined the potential of Web 2.0-supported project-based learning for Jordanian EFL eleventh-grade students' oral fluency and accuracy of grammar and vocabulary. The authors conclude that the participants instructed through the computerized project-based treatment outperformed those who were conventionally instructed in both oral fluency and accuracy of vocabulary and grammar.

A more general perspective is represented by **Heri Mudra** (Indonesia) in the article "Digital Literacy among Young Learners: How do EFL Teachers and Learners View its Benefits and Barriers?" The study highlights both positive and negative perceptions of young learners and EFL teachers towards benefits and barriers of digital literacy.

Finally, three practical papers show the application of technology-based research ideas in the TESOL classroom. To start with, **David Kent** (South Korea) explores the use of voice-user interfaces of digital assistants. The paper provides sound theoretical background, evokes most crucial previous studies, but also, more importantly, gives instructional strategies supported by examples. We particularly recommend the wealth of ready-made teaching resources (lesson plans, student handouts and evaluation rubrics).

Two final submissions, one by **Jelena Bobkina, Elena Domínguez Romero and María José Gómez Ortiz** (Spain) and the other by **Asnawi Muslem, Hajar Ibrahim and Teuku Zulfikar** (Indonesia) show the use of educational mini-videos in improving oral competence.

We wish you good reading and good health in those hard times!

# **DIGITAL LITERACY AMONG YOUNG LEARNERS: HOW DO EFL TEACHERS AND LEARNERS VIEW ITS BENEFITS AND BARRIERS?**

by **Heri Mudra**

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## **Abstract**

The present study aims to explore perceptions of young learners and EFL teachers towards benefits and barriers of digital literacy. Eight young learners and five EFL teachers took part in this qualitative study. In-depth semi-structured interviews were employed to collect qualitative data. The results depict that there are benefits and barriers of digital literacy for young learners in learning English. The benefits of digital literacy include improving young learners' writing, reading, listening, and speaking skills, getting used to authentic materials, increasing frequency of digital technology use, enhancing online collaboration between teacher-learners and learners-learners. However, this study reports that digital literacy also has some negative impact for young learners. Problems with weak signals which affect difficult internet access still remain a problem. Contents of online digital materials are not easy for young learners to interpret and convert into simple, self-regulated information. Moreover, digital literacy tools are considered to be expensive. These barriers might be influenced by other problems such as complexity of digital literacy tools, different comprehension levels among young learners, young learners and EFL teachers' lack of digital literacy experiences. In conclusion, the results give valuable insights in how to go about integration of digital literacy tools for young learners.

**Keywords:** digital literacy; young learners; benefits; barriers; EFL teachers

## **1. Introduction**

The use of digital technology for learning language among young learners has become an important issue among EFL teachers, learners, and stakeholders. For the EFL teachers, digital technology is beneficial in that they can enhance their teaching quality by helping their young learners to learn the language (EDC, 2018). Interestingly, young learners, upon amazing innovation of digital technology, have indulged in utilizing various digital literacy tools such as the internet, mobile phones, online and offline games, texting, and drawing tools (Downes, 2002; Carrington, 2005; Marsh, 2006). Such a wide range of digital technologies is useful for the young learners to improve their understanding towards every word, text, and meaning as

delivered via the digital literacy tools. It implies that young learners develop their digital literacy through such digital literacy tools, which also promote self-regulated learner autonomy (Turula, 2017) when young learners enforce themselves to learn English. In line with that, the “digital literacy allows for accessing, analyzing, evaluating, creating and participating with multimedia messages” (Jolls, 2008, p. 2). Moreover, young learners with high digital literacy learn English by transforming, informing, and reforming messages or texts from digital literacy tools (Davidson, 2009).

Young learners who believe in the ability of digital literacy tools that help them understand texts or messages experience multimodal literacies. This kind of literacy is combined from several digital literacies which allow the learners to access listening, writing, reading, viewing, speaking processes simultaneously (Kress & Jewitt, 2003; Pahl & Rowsell, 2005; Walsh, 2008). There has to be a good strategy for young learners to understand digital texts as they contain information graphics which give various views of information compared to that of printed texts (Carrington, 2001). In this case, the multiliteracies are determined by evaluating young learners’ digital literacies. In other words, digital literacy helps to improve young learners’ multiliteracies through careful, detailed understanding.

A plethora of studies on digital literacy in teaching and learning English has been done, including digital video and audio technology (Miller, 2007; Skouge, Rao, & Boisvert, 2007), music (Paquette & Rieg, 2008), computer application for learning (Parette et al, 2008; Meurant, 2010; Li, 2014), phonemic awareness instruction (Johnson & Tweedie, 2010), language and literacy among dual language learners (Castro et al, 2011), digital games and texts in English and literacy classroom (Davidson, 2009; Apperley & Beavis, 2011), teenagers’ news literacy (Kleemans & Eggink, 2016), digital storytelling to support digital literacy (Churchill, 2016), framework for emergent digital literacy (Newmann, Finger, & Newmann, 2017). Moreover, a number of studies on how digital literacy is viewed has also been conducted such as perceptions of EFL students’ computer literacy (Bataineh & Baniabdelrahman, 2006), beliefs and practices of preschool teachers (Brown et al., 2012), teachers’ perceptions of literacy and use of technology in their classroom (Lawrence, 2013), perceptions of digital and printed texts to predict literacy (Seok & DaCosta, 2016), perceptions of the level of digital literacy (Çam & Kiyici, 2017) in L2 classroom (Sen, 2017).

The above studies mostly focus on perceptions or views on the implementation of digital literacy via computers or other digital literacy tools. In Indonesia, there are several studies which are related to digital literacy. Supratman and Wahyudin (2017) studied the growth of internet access as a part of digital literacy among Indonesian youth and adults. In the same

vein, Rahmah (2015) states that the ease of internet growth has a negative impact towards digital literacy skills. Meanwhile, another study by Eryansyah et al. (2019) found that not all Indonesian EFL learners are able to develop their digital literacy. It is because they are not provided by sufficient skills and availability of infrastructure such as computers.

Kurniawati, Maolida, and Anjaniputra (2018) conducted a study to evaluate the effectiveness of technology as digital media literacy. The study shows that digital media literacy is better implemented by a teacher with appropriate character. Moreover, a study by Pratolo and Solikhati (2020) depicts that digital literacy in Indonesia can be better developed through the use of both smartphones and computers and proper quality of teachers.

Perdana et al. (2019) did research into digital literacy of Indonesian learners at different levels. The results depict that each learner from a different level has various styles of digital literacy. A different study by Zuroh and Liansari (2017) shows that Indonesian learners have low amount of digital and language literacies. This happens when the learners do not have a habit to read and write more than they used to do.

However, few research has been done in terms of both EFL teachers and learners' views towards the benefits and barriers of digital literacy among young learners in Indonesian educational contexts.

Therefore, the present study is intended to explore Indonesian EFL teachers' and learners' views towards the problems and barriers of digital literacy among young learners. This study is different from the previous studies in a number of respects. First, it attempts to unleash underlying reasons why digital literacy among young learners is considered to be beneficial. Second, it concerns underlying problems that affect young learners when trying to improve their digital literacy. Third, this study is conducted in the Indonesian educational context. Indonesia is one of the developing countries which begins to adopt advanced digital technology in learning. Problems might be more critical as not all young learners are able to operate and afford digital literacy tools. Many schools are located in rural areas and the use of technology for learning still remains a problem (Mudra, 2018). Fourth, the EFL teachers and learners are selected purposely in several random schools consisting of both rural and city schools.

Above all, the present study is undertaken based on the following research question: What are the benefits and barriers of digital literacy as perceived by EFL teachers and learners? To clearly define the topic of this paper, the following theoretical framework is provided to describe each key term. This theoretical framework is organized based on the main topics,

namely definition of digital literacy, digital literacy in English language teaching and learning, and components of digital literacy for English learning.

## **2. Literature review**

### **2.1. Digital literacy**

Digital literacy is defined as “the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers” (Gilster, 1997, p.215). Basically, “digital literacy represents a person’s ability to perform tasks effectively in a digital environment, with ‘digital’ meaning information represented in numeric form and primarily for use by a computer” (Jones-Kavalier & Flannigan, 2006, p. 9). The use of one of digital literacy tools in learning English is compulsory to determine “the ability to use technology as a tool to research, organize, evaluate, and communicate information, and the possession of a fundamental understanding of the ethical/legal issues surrounding the access and use of information” (Lankshear & Knobel, 2006a, p. 23). Digital literacy promotes digital technology to process various pieces of information in online contexts such as Web 2.0 and its online applications.

Digital literacy in English teaching and learning contexts needs to be acquired by young learners. That is why digital literacy can be defined as “survival skill in the digital era” (Eshet-Alkalai, 2004, p. 102). To ensure that young learners are digitally literate, supporting skills such as information, media, technology skills; learning and innovation skills; and life and career skills have to be developed (Warshauer & Matuchniak, 2010). These literacy skills direct young learners to be digitally competent. Digital competencies are important to figure out whether young learners are ready for utilizing digital tools for their English learning. Digital competencies help young learners to proceed with digital literacy tools as a requirement for becoming digitally literate. This is in line with the following definition of digital competencies (Ferrari, 2012):

knowledge, skills, attitudes (thus including abilities, strategies, values, and awareness) that are required to use ICT and digital media to perform tasks; solve problems; communicate; manage information; collaborate; create and share content; and build knowledge effectively, efficiently, appropriately, critically, creatively, autonomously, flexibly, ethically, reflectively for work, leisure, participation, learning, socializing, consuming, and empowerment. (p. 43)

The above concept of digital competencies is very comprehensive. It reflects proper knowledge for young learners to be successful in digital literacy. Gilster (1997), however,

formulates simple categories for digital competencies which include managing information, examining the main concept of knowledge, surfing information on the web, and determining messages or texts.

## 2.2. Components of digital literacy

In general, digital literacy consists of several components which include assembling digital literacy tools, transforming print-based literacy, balancing use of “cut-and-paste” and “copy/delete” procedures, and promoting the “inclusion of visual” (Mifsud, 2006, p. 136-9). The components are related to the type of information needed for understanding digital literacy in English learning for young learners. The information varies depending on its relevant functions for improving digital literacy skills. Churchill (2016) states:

“Digital literacy” is defined as a set of skills that enable an individual to use technologies to work with information. Information in the context of this study is examined as digital information, which encompasses texts (e.g., articles published on websites), images (e.g., photographs and pictured on web sites or taken by students), videos (e.g., multimedia products, animations and broadcasts), and podcasts (e.g., recorded narrations published online or on students’ desktops). (p. 21)

Digital literacy requires young learners to work with messages, illustrations, videos, and recorded audios such as podcasts. To do this, young learners need to perform specific digital literacy skills. Eshet-Alkalai & Amichai-Hamburger (2004) divide such skills into five categories, namely i) photo-visual skills (‘reading’ instructions from graphical displays’); ii) reproduction skills (‘utilizing digital reproduction to create new, meaningful materials from preexisting ones’); iii) branching skills (‘constructing knowledge from non-linear, hypertextual navigation’); iv) information skills (‘evaluating the quality and validity of information’); v) socio-emotional skills (‘understanding the ‘rules’ that prevail in cyberspace and applying this understanding in online cyberspace communication’) (p. 421). These specific literacy skills can be implemented and organized via web 2.0 digital-related tools (Hargittai, 2008) including a) interactive white board (e.g., *ACTIVBoard*, *SMART Board*), b) webquests (e.g., *Questgarden*, *Zunal*, *WebQuest*, *Fur.ly*), c) digital storytelling (e.g., *iMovie*, *Windows Movie Maker*, *Posterous*, *Dreamweaver*), d) digital video sharing tools (e.g., *TeacherTube*, *Videoegg*, *Selfcast*), e) web-based word processor/spreadsheet/presentation/form/book/data storage services (e.g., *Buzzword*, *Book Goo*, *BookRix*, *Etherpad*, *Peepel*, *OpenGoo*, *ZOHO*, *Google Docs*, *Google Apps*), f) web-based photo sharing/uploading/managing (e.g., *Flickr*, *Shutterfly*, *PhotoPeach Dropshots*), g) digital mapping (e.g., *Google Maps*, *Community Walk*, *ZeeMaps*,



*Wayfaring*, *MapBuzz*), h) audience response systems/audience clickers (e.g., *iRespond*, *Qwizdom*, *TurningPoint*), i) social networking (e.g., *Facebook*, *MySpace*, *LinkedIn*), and j) online learning systems (e.g., *Blackboard/Moodle/Vista/WebCT*). Such digital tools are much helpful for young learners to introduce themselves with the latest advancing technology for learning English.

### **3. The present study**

#### **3.1. Participants and methodology**

This research was undertaken by implementing a case study with eight young learners and five EFL teachers. The learners were purposely selected from different schools in one province in Indonesia. Four learners were from different rural schools, while the others were from urban schools. They varied from first, second, and third grade of middle high schools.

To involve the learners in the current study, the researcher followed several steps. First, the researcher observed learners from rural schools which have lower and better access to learning technology such and the internet. Second, the researcher observed learners from urban schools which have better access to learning technology such as the internet. The purpose was to ensure that the learners have low or high competency in digital literacy components such as the use of computer and the internet.

The teachers were selected from different rural and urban schools in the same province. To involve the EFL teachers, the researcher also observed EFL teachers from rural and urban schools which have better or worse access to teaching technology. The teachers were purposely selected from different middle high schools. The selection of teachers was based on their different experiences in using computers or the internet. In the pre-research phase, the researcher found that the learners have various views towards teaching and learning technology. This has become the reason for determining levels of digital literacy.

#### **3.2. Data collection and analysis**

The method employed in this study was in-depth semi-structured interview. The interview was intended to explore young learners' views towards advantages and disadvantages of digital literacy for their English learning. It also aimed to describe EFL teachers' views towards their learners' digital literacy.

The data of this study were collected through several steps. Firstly, the participants' readiness including teaching and learning experiences, skills in using digital tools, and ages

were identified. Secondly, the learner participants were asked to answer several questions about their views on benefits and barriers of digital literacy for their English learning. Thirdly, the EFL teachers were asked to describe their perceptions towards their young learners' digital literacy. Both responses for benefits and barriers of digital literacy were delivered respectively.

The data were analyzed through several steps which include coding and reducing data, displaying data, verifying data, giving conclusions (Miles, Huberman, & Saldana, 2002). Raw data taken from the interviews were given a code. This code enabled the researchers to easily figure out which data they worked with. The data were, then, checked, read, and reduced. Raw data might be reduced if they met data saturation. The next step was to display data in terms of qualitative descriptions. The data were, then, verified through data triangulation to ensure its trustworthiness. Finally, the conclusion was determined to allow readers and further researchers to figure the gist of the article.

### **3.3. Results and findings**

Having employed in-depth semi-structured interviews with the young learners and the EFL teachers, the results are subdivided into two main subparts, namely benefits of digital literacy based on young learners' and EFL teachers' views as well as barriers of digital literacy based on young learners and EFL teachers' views. In this section, learners and teachers are anonymous; their surnames are permitted to be published. Therefore, learners are coded by L1, L2, L3, L4, L5, L6, L7, and L8. For EFL teachers, the codes are T1, T2, T3, T4, and T5.

#### **3.3.1. Benefits of digital literacy: young learners' views**

This subpart consists of benefits of digital literacy based on young learners' views. It includes learner English skill improvement: writing, reading, listening and writing.

##### **1. Learner English skill improvement: writing**

The use of digital technology in learning English helps young learners to improve their digital writing literacy. As reported by the learners, social networks (e.g *Facebook*, *WhatsApp*) and blogs were the internet applications that motivated them to write. Findings also reported that these young learners were enthusiastic to write in English. They even did not pay attention to whether their English writing met grammatical rules. For learner 3 and learner 5, social networks helped to accommodate writing hobby.

Everyday I spend time writing wise words in English and put them on my social network applications. I do not care about any incoming comment. I just love writing and writing. (L3)

I like writing some status updates in my Facebook Wall. It makes me feel satisfied with my status update writing. (L5)

Unlike other learners, learner 2 kept giving a comment to every status update as it emerged on *Facebook* Wall.

I always read a status update before I respond to it. I always think about what to say. Finally, I give a comment. Finally, I am used to writing comments. (L2)

Learner 4 argued that applications such as *WhatsApp* allowed her to look up meaning for new vocabulary items in a dictionary. It was considered to be a positive activity to improve digital writing literacy.

Some of my classmates always send a message in English via WA. I do not know English well. That is why, I have to look up the unknown words in an online dictionary. I can still remember the vocabulary I looked up. (L4)

Blogs were reported to encourage young learners to write in English. The learners were asked to answer questions, write a poem, or give their opinion on a blog wall designed by the teachers. Comment boxes of the blog were provided for the young learners to write in English.

We have to write a comment in the comment box. Our English teacher has a blog. She gives us some exercises and we have to write the answers on the comment box. (L1)

My English teacher really likes poems. We also learn poems from his blog. For our task, we make a poem and write it on his blog wall. (L6)

## **2. Learner English skill improvement: reading**

Reading is an important skill as regards digital literacy. In this study, the young learners reported that they encountered more valuable information and knowledge through reading. Moreover, online reading stimulated their enthusiasm and motivation as they were able to work with creative and interactive visual materials on the internet. Preferred reading materials included materials with various images and illustrations, animated reading materials, colorful texts, reading texts with hyperlinks. Learner 4, for example, tended to obtain information from animated reading materials. It is believed that such reading materials kept the learner away from boredom during reading.

If I am asked about online reading, I am ready to answer that I just want to read texts full of animation. I cannot get anything without such animation features. (L4)

For learner 7, hyperlinks while reading texts were much helpful to figure out the detailed meaning of any unknown words.

When I read a text online, I refer to some hyperlinks offered. It helps me a lot to understand difficult words. So, I do not need a dictionary anymore. (L7)

Learner 1 and learner 3 argued that colorful texts and images made them feel relaxed when reading online.

I never feel bored reading online. I even get more and more by combining texts and illustrations of the texts. (L1)

Colorful reading texts refresh my eyes, my mind, and my thoughts. The more colorful the text is, the easier for me to comprehend the text. (L3)

### **3. Learner English skill improvement: listening**

Listening skill was developed when the young learners utilized both offline and online computer, android, and internet applications. In this study, it was found that English music and podcasts applications focusing on teenager's daily topics were more popular among the young learners.

Learner 5, learner 8, and learner 2 listened to podcasts both outside the classroom and at home. The topics were mostly related to teenager's daily activities such as being at school, going around with friends, and spending time for fulfilling hobbies.

I love listening to hobbies among young people. I can choose any recording I like. Listening to the recordings has developed my English skill. So, I like listening again and again. (L5)

As a student, I have many chances to learn the way young students behave positively in their schools. I listen to podcasts about schooling on the internet. Sometimes I download it and listen to it later in my room. (L8)

I am pretty sure that when I listen to teenagers' daily life in other countries such as England or America, I feel happy. They talk about their English learning. I can learn from it. I know English is their first language. They have to speak well, too. (L2)

For learner 6 and learner 7, English music offered not only organized sounds, but also words, sentences, and implied meaning. The combination between sounds, rhymes, and words allowed the learners to enjoy listening to English songs while concerning learning vocabularies and implied messages of the songs.

I never forget listening to English songs everyday. I have to listen to it, because the words are easy to understand and have deeper meaning. (L6)

Listening to music is my hobby. I like rock music. It is so meaningful. There is so much information I can get. It is all about life. It is all about our life. (L7)

#### **4. Learner English skill improvement: speaking**

Digital literacy not only enabled the young learners to be skillful at writing, reading, and listening, but also at oral communication. It is reported that speaking followed listening. Once the learner listened to a song, recorded podcast, news, or video, they tended to retell the main topic of the digital resources. This also helped them comprehend every message, text, or information they encountered via digital tools. Learner 1 admitted that watching English videos encouraged him to talk by himself by using English in his room.

I am a bit shy to say that I am used to speaking English in front of the mirror in my room. I do it alone. I really enjoy it, because I express all my feelings. I use gestures like those in the video I watched. (L1)

Different from L1, learner 4 tended to make a simple daily conversation with her classmates.

We are asked by our English teacher to listen to several conversations. Then, we are asked to practice such conversation naturally with our classmates. We do it everywhere in the canteen, school yard, inside the classroom, and during resting time. (L4)

#### **5. Learner collaborative work**

This study reported that digital literacy increased learner-learner collaboration in learning English either in the classroom or outside. Some of them worked in pairs; the others worked in groups of three or four. Learner 7 believed that collaboration with other learners helped to explore a question or problem from the teacher.

I think it is a good idea to work with a classmate. When I do not have any idea, my classmates as my group partner have one. If my partner does not know this, I might know that. Honestly, I still need some guidance to operate all processors such as word, power point, and of course excel. (L7)

Collaboration was not only face-to-face discussion like L7 and classmates, but online or distant collaboration was also well-known among young learners. Learner 2 considered that online collaboration can be conducted via social networking applications such as *WhatsApp* and *Facebook*.

When I have some problems, I ask my classmates via WhatsApp. I catch responses quickly. I can understand the meaning via WhatsApp. It is so easy to reach any classmate with WhatsApp. (L2)

### **3.3.2. Benefits of digital literacy: EFL teachers' views**

This subpart explores EFL teachers' views towards the benefits and barriers of digital literacy for their young learners. The benefits are authentic materials for young learners, teacher-and-learner digital technology use, and teacher-learners collaborative work.

#### **1. Authentic materials for young learners**

Digital literacy was deemed to develop young learners' preference and ability to utilize authentic materials for their English learning. One of the EFL teachers, teacher 2, reported benefitting from authentic materials offered for the learners. Both the teacher and the learner used authentic materials for English course.

I always believe that authentic materials are advantageous for my learners. I have been teaching English to young learners for fifteen years and I have been using authentic materials as the main materials. I ask my learners to read the materials and the result is beyond my expectation. Some learners are able to surf and download other authentic materials from the internet. They not only read it, but also retell and rewrite the content on their own words.  
(T2)

For teacher 5, authentic materials were used for teaching reading and allowing the learners to learn native-like grammar, new vocabulary items, and English cultures.

The authentic material has no doubt for its usability and effectiveness. Look, it is, of course, appropriate for teaching reading skills. More importantly, the learners also learn grammar used by native speakers. Many new vocabularies used in various contexts are identified. Every content of the material is based on native culture which is natural and natural. (T5)

Teacher 1 was certain that his young learners can access authentic materials on the internet. Besides, interpreting the content of the materials was no more a problem for his learners.

First, I was sure that my learners were able to browse websites which contained authentic materials. They did. Then, I was sure they were able to download the materials. They did again. Eventually, I was sure they were able to interpret the content of the materials. They did like I expected. I think there is a balance between natural content of authentic materials and learners' interests in reading the materials. (T1)

Teacher 3 and teacher 4 found that interesting authentic materials were colorful and featured with funny, natural, and amazing illustrations.

It is not surprising why young learners can illustrate the content of authentic materials I offer for them. The materials are really helpful. They contain good colors and more interesting

images. It is not surprising that the learners focus on the features. I am as the teacher interested in those gorgeous features as well. (T3)

My learners admitted that they liked many illustrations within the authentic materials. They told me that they read the text in the materials, but they referred to the illustrations to help them out. (T4)

## **2. Teacher-learners digital technology use**

Digital technology was utilized for learning English both inside and outside the classroom. One of the teachers, teacher 2, reported benefitting from young learners' digital literacy. It not only encouraged the learners to use digital tools, but also introduced such tools to the teacher who was not able to operate it.

I am now able to operate some computer applications for teaching English. Truly speaking, my young learners, who are still young, teach me how to use android applications for teaching them. It sounds weird, but it is good for me. Now, I always use applications for teaching English. My learners are enthusiastic to use the applications. Most of them can easily understand what I teach. (T2)

## **3. Teacher-learners collaborative work**

Some popular social networking applications such as *Facebook* and *WhatsApp* were not only entertaining, but also useful for developing communication in English. Teacher 5, for example, created a group on *Facebook* for learning. Each learner was asked to submit their answers via the application. They were also allowed to give comments or to share experiences or problems with the English course.

*Facebook* application allows me to interact with my learners. The group I created is now really communicative. My learners are allowed to write a status update as a part of their problem or experience in learning English. I also provide tasks or projects or questions via the group. They look so happy to work with the group. I can feel that their knowledge is getting better and better via such interactive tools. (T5)

### **3.3.3. Barriers for digital literacy: young learners' views**

Barriers for digital literacy, as viewed by young learners, are access to the internet, expensive digital literacy tools, complexity of material contents.

#### **1. Access to the Internet**

Internet access did not entirely support young learners' interests to surf materials and interpret contents. This obstacle was affected by lack of signal strengths, distant internet cafe location,

and lack of WiFi signal. Learner 1 and learner 4 experienced the same obstacles when preparing for accessing the internet while learning English.

We know that the internet is very useful to help us be knowledgeable with native-like English. Unfortunately, the signal is always weak in this area. How can we reach better knowledge? (L1)

Once I type a word in Google Search Engine, I need to wait for a couple minutes for it to successfully process the request. I become less motivated to learn English from the internet. (L4)

In the same vein, learner 8 felt regretful that WiFi signal was not really powerful to reach every part and corner of the school.

WiFi is available in this school, but its signal is so weak. I cannot even open any easy search on the internet. This signal bothers me to learn, really. (L8)

## **2. Expensive digital literacy tools**

Digital literacy tools such as mobile phones, android gadgets, laptops, ipads, and digital cameras were believed to be much more expensive for the learners. Learner 2, learner 6, and learner 7 were critical about the expensive digital literacy tools for their English learning. They intended not to rely upon the use of such digital literacy tools for acquiring digital knowledge from the internet.

I know digital tools such as laptops and android gadgets are much more useful for increasing my English. Yet, the tools were not affordable for me and for my parents. (L2)

It is much fun to learn English via smart phones. I just find it hard to get a fancy, better one.

It is more expensive. I just use my old phone. It can still be used for learning. (L6)

I am not going to learn English if I have to buy an advanced tool. Maybe the school provides the tool for me and for all learners to learn English in the school. (L7)

## **3. Complexity of materials**

The content of materials browsed and provided was complicated for young learners. Some learners (e.g learner 3, learner 4, and learner 8) found it difficult to read and interpret the materials.

My teacher usually gives us some materials browsed from the internet during English courses. I am not too good at comprehending the text and interpreting the meaning of their contents. (L3)

Not all materials we search are interesting and easy to read. Some materials only consist of unknown words and complex grammatical rules. (L4)



### **3.3.4. Barriers for digital literacy: EFL teachers' views**

This subpart shows EFL teachers' views towards their young learners' barriers for digital literacy. The major barriers proved to be complexity of digital literacy tools, different comprehension levels, lack of policy support, and lack of digital literacy experience.

#### **1. Complexity of digital literacy tools**

Digital literacy tools such as mobile phones, android gadgets, and laptops were reported to be complicated literacy tools for teaching and learning English. For teacher 2, digital literacy tools consisting of complicated operation procedures were difficult to be acquired.

I am not skillful in operating digital literacy tools such as the internet and computer applications for teaching English. I choose to teach by employing various methods without focusing on utilizing digital literacy tools. I know few procedures to use applications. I choose other ways of teaching. (T2)

#### **2. Different comprehension levels**

Young learners were considered to have different comprehension levels when learning English via digital literacy tools. Teacher 5 believed that comprehension levels among young learners influenced the quality of received knowledge.

In my class, many young learners are categorized into different levels when I ask them to read or to talk. The difference affects the way they interpret texts or messages from the internet. (T5)

#### **3. Lack of policy support**

Schools were not provided with supporting literacy tools such as laptops or computers with internet connection or WiFi. Teacher 3 suggested that schools should provide laptops or other digital literacy tools for their young learners.

Better English learning begins when the learners are still young. Supporting tools such as laptops or computers are highly needed to introduce them to the tools. Excellent internet signals or WiFi have to be considered as important parts for comprehending information from online sources. (T3)

#### **4. Lack of digital literacy experience**

Both EFL teachers and young learners did not have much experience in utilizing digital literacy tools for learning English. EFL teachers reported that they lack knowledge in reading, writing,

talking, or listening to messages and texts provided on the internet. For teacher 1, lack of digital literacy experience was influenced by daily habits and formal regulations.

I agree that experience helps young learners to be successful. What if the learners lack literacy experiences? Surely, it gives a negative impact on giving instruction to the learners to promote literacy via digital tools. (T1)

#### 4. Discussion

The results of this study reveal that there are benefits of digital literacy for young learners in learning English. First, it is noted that young learners are able to improve their writing skill. They employed digital literacy tools such as social networking applications (e.g., *Facebook*, *WhatsApp*) either outside the classroom or at home. These internet applications also motivated the young learners to use English whenever they wrote a sentence or a word in their social network walls. This is in line with the findings of Vikneswaran and Krish's (2015) study, according to which social networking sites such as *Facebook* improve learners' motivation to write in English. One factor that affects learners' preferences to use such social networking applications is its capacity for direct visual response. Other studies (Bloch, 2008; Yancey 2009; Kabilan, Ahmad, & Abidin, 2010) show that social networking tools such as *Facebook* promote learners' better writing performance, as they get practice both inside and outside the classroom. In this case, EFL teachers should have ideas to integrate social networking applications into EFL classrooms (Ibarra, 2018).

The study depicts that digital habits help to improve young learners' literacy through interesting online reading materials. This supports the view of Lewin (1997), who states that young learners are directly motivated with online reading materials that are designed with full-color images and animated texts. In the same vein, Rello & Bigham (2017) argue that colorful reading texts have a positive impact on learners' reading skill. Moreover, Dzulkifli and Mustafar (2013) emphasise the strong relationship between colors, attention, and memory performance. Colors increase attention and aid memorization, which is appropriate for learners' reading literacy skill.

As for listening skills, this study reports that digital literacy tends to allow young learners to be more engaged with English songs and podcasts on the internet. English songs and podcasts improve young learners' listening skills (Cameron, 2001; Johnstone, 2002; Demirel, 2004, Klein, 2005) and working with English songs are one of the effective techniques for learning listening skills among learners. The current findings corroborate the research by Chi and Chan (2011) and McMinn (2008), who claim that podcasts help learners to improve their

listening skill and linguistic knowledge while reading available scripts. Other studies (Sze, 2006; Trinkle, 2008; Ng'ambi, 2008) argue that listening to recorded audio files such as podcasts is effective in making active listeners. This study also reveals that digital literacy develops young learners' spoken ability. Young learners are encouraged to listen to podcasts, songs, videos, or news from the internet. They tend to use their digital tools such as smart phones for interacting with others or listening to resources on the internet for fun (Asmali, 2018). This is in line with a study by Lawlor and Donnelly (2010), which proved that podcasts can be utilized to improve young learners' speaking skills. Moreover, interactive, authentic videos are considered to be appropriate materials for teaching and learning process (Shahrokni, 2018) that enable young learners to talk in English.

Another important finding in this study is that digital literacy tools in terms of the internet provide young learners with authentic materials. The authentic materials contain native grammar usages that are paramount for young learners' grammatical competence. In the same vein, a study by Nushi and Egbali (2017) found that EFL learners can learn English from authentic materials which contain natural use and usage of English grammar. Authentic materials can be used by EFL teachers to develop young learners' listening, speaking, reading, and writing skills. Solano et al. (2017) argue that it is valuable for EFL teachers to integrate digital literacy tools for enhancing young learners' English skills. It is because young learners tend to use digital tools such as mobile phones for learning either inside the classroom or at home. For young learners, grammatical competence is the most important knowledge they prefer (Mospan, 2018) when they are reading such authentic materials.

As for the second focus of this study, the results indicate that there are significant barriers for digital literacy of young learners. One of the barriers is the difficulty of internet access. The learners from rural schools find it hard to access the internet due to low signals. This barrier does not allow them to develop their digital literacy through the use of the internet. This is in line with a study by Eryansyah et al. (2019), who found that digital literacy among learners is getting lower when they do not get sufficient internet access. Internet access which leads learners to high digital literacy is influenced by availability of digital tools but also by issues of financial support (Niikko and HavuNuutinen, 2009). Accessibility of learning technology such as the internet and availability of digital media should be balanced. It allows learners to develop their digital literacy (Littlejohn, Beetham, and McGill, 2012).

Another barrier for learners is that due to difficult content of materials they cannot be easily comprehended by the learners. The complexity of understanding digital materials (Williams, 2006) is a problem for learners. Bhat (2017) states that digital media literacy is

formed by the skill in using digital tools and writing contents such as digital texts. In the same vein, Horton (2008) suggests that learners need to be able to use digital media in order to comprehend all contents of digital resources. Learners should also learn digital skills needed for using digital media. Moreover, a study by Shopova (2014) found that a number of learners who begin studying at school need to increase their learning technology skill in order to improve their digital literacy. This barrier emerges because some learners do not have proper experience in using digital tools. Low comprehension and lack of knowledge lead the learners to lower digital literacy skills (Margaryan, Littlejohn, and Vojt, 2011).

Lack of policy support is another problem for learners when trying to increase their digital literacy skills. Policy support can be manifested through regulations, suggestions, ideas, and commitments. Lankshear and Knobel (2006b) stated that both teachers and learners should be encouraged to develop their digital literacy skills. This can be done through the improvement of the teaching and learning process and digital media. To facilitate that process, Kaeophanuek, Na-Songkhla, and Nilsook (2018) suggested that there are two ways of creating appropriate policy support. First, digital tools should be provided for learners. Each learner has to learn how to use digital tools in order to encourage their digital literacy skills. Second, digital literacy skills can be developed through the integration of digital literacy materials into the school curriculum.

## **5. Conclusion**

Digital literacy needs to be integrated into curriculum and syllabus. This enables the EFL teachers to prepare for some strategies to develop digital literacy for young learners. Such integration also allows the teachers to manage the use of digital literacy tools which might be both beneficial and disadvantageous for young learners. To do this, support from the stakeholders, teachers, learners, parents, and society is highly needed.

English learning by young learners constitutes self adaptation and self adoption towards strategies for implementing the four skills of listening, speaking, reading, and writing. The integration of digital media in learning English by young learners has to be accompanied by developing specific skills how to use both online and offline applications. These learning applications are useful when young learners are able to indulge themselves in creating a particular context for fulfilling a particular situation. In this case, young learners are expected to work with messages or texts, particularly on the internet, as core materials.

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# DOES WEB 2.0-SUPPORTED PROJECT-BASED INSTRUCTION IMPROVE JORDANIAN EFL LEARNERS' SPEAKING PERFORMANCE?<sup>1</sup>

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## **Abstract**

This study examines the potential effectiveness of Web 2.0-supported project-based learning in Jordanian EFL eleventh-grade students' speaking fluency and accuracy of grammar and vocabulary. The participants of the study were 43 female students who were purposefully selected from two schools at Al-Koura Directorate of Education (Jordan) in the first semester of the academic year 2018/2019. Using a quasi- experimental, pre-/post-test design, the participants were divided into the experimental group (n=21) who was instructed using computerized project-based instruction and the control group (n= 22) who was taught per the guidelines of the prescribed Teacher Book, Action Pack 11. Descriptive statistics and One-Way ANCOVA were used to analyze the students' scores on the speaking pre-/post-tests. The results showed that the participants instructed through the computerized project-based treatment outperformed those who were conventionally instructed in both speaking fluency and accuracy of vocabulary and grammar. A number of pedagogical implications and recommendations are put forth.

**Keywords:** accuracy; EFL; fluency; Jordan; project-based learning; speaking; Web 2.0

## **1. Introduction and background of the study**

When speaking, one expresses thoughts, feelings, and ideas through “a complex mental process combining various cognitive skills virtually simultaneously, and drawing on working memory of words and concepts, while self-monitoring” (Burns & Hill, 2013, p. 232). Speaking is also described as a dynamic, laborious (Goh, 2007), and purposeful (Richards, 2009) process.

A good body of research (Brown, 2000; Burns, 2012; Omaggio Hadley, 2000) suggests that speaking fluency and accuracy of vocabulary and grammar are requisites for successful

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communication. Accuracy is defined as the learners' ability to produce grammatically correct sentences, as learners should not only know grammatical rules but also be able to speak and write accurately. Fluency, on the other hand, refers to the learner's ability to produce written and spoken utterances with ease and efficiency and without pauses or breakdowns in communication (Srivastava, 2014). For many foreign language practitioners, speaking accurately and fluently is one of the ultimate goals of language learning (Thornbury, 2000). Thus, success in learning speaking culminates not only in speaking fluently but also in producing fewer errors in grammar and vocabulary (Brown, 2000; Kumar, 2013).

There has been a near-consensus among researchers that speaking is a challenging skill (Bahrani & Soltani, 2012; Wallace, Stariha, & Walberg, 2004). Communication problems often appear when learners are unable to express themselves adequately in a foreign language or to understand other people's messages (Fitriani, Apriliawati, & Wardah, 2015).

Two major types of difficulties are noted in learning speaking in the EFL classroom: linguistic and psychological (Fitriani et al., 2015). Speaking is generally challenging not only because of the differences between languages (Bani Abdo & Breen, 2010), inadequate command, and lack of practice but also of affective factors such as anxiety and fear to be judged by others (Fitriani et al., 2015).

For Jordanian EFL learners, learning English is doubly challenging not only because of the linguistic differences between Arabic and English (Bani Abdo & Breen, 2010) but also because of the lack of adequate opportunities to practice, as English is taught as a school subject with an average of four 45-minute periods a week.

Thus, in the Jordanian EFL context, there seems to be a near consensus among researchers (despite a relative dearth of research on the difficulties faced by Jordanian learners in speaking) that Jordanian learners suffer serious problems in oral communication (Al-Jamal, 2007; Bataineh, Al-Bzour, & Baniabdelrahman, 2017; Yaseen, 2018). Research suggests that it is imperative to allow learners adequate opportunities to develop their speaking skills. For instance, Bailey (2005) reported that communicative activities in the foreign language classroom are catalysts for learners' engagement in the speaking lessons, especially with message-oriented and learner-centered activities which promote active learning, cooperation and empathy (Klippel, 1984; Kumar, 2013). However, teaching EFL speaking in Jordan is both traditional and teacher-centered, as learners have little opportunity to speak in authentic communicative contexts or for authentic purposes within the school context.

Project-based learning (PBL) underlies Dewey's theory of experience which essentially relates the school, as a meaningful and authentic context for learning, to life to provide the

learner opportunities to acquire knowledge and skills (Ulrich, 2016). It is also rooted in the constructivist theory of learning which posits that learners can make sense of their learning and construct new knowledge only if they actively engage in learning (Krajcik & Blumenfeld, 2006). Cognitive (Smith, 2015) and social sciences have also contributed to PBL, as both promote social interaction in the learning process (Du & Han, 2016).

Project-Based Learning has been hailed as a viable alternative to traditional teaching (Bell, 2010; Larmer & Mergendoller, 2015; Solomon, 2003), as it promotes independent learning, learner responsibility, and social and democratic behavior (Knoll, 1997). It is essentially an instructional approach that requires teachers and students to work collaboratively to solve authentic problems (Harris, 2014), as learners select, plan, investigate and produce something to answer real-world questions or respond to an authentic challenge (Holm, 2011).

Project-Based Learning has been reported to promote language teaching and learning through the provision of authentic and meaningful contexts of learning (Bell, 2010; Brown, 2016; Thomas, 2000) often making use of technology (Solomon, 2003). It has benefited from the advances in technology which potentially catalyzes language learners' engagement, communication, thinking and research skills (Ravitz, Hixson, English, & Mergendoller, 2012), offers an engaging context of learning, and contributes to learners' creativity (Donnelly, 2005). It is a lot more than just *doing projects* or *engaging in simple real-life experiential activities* to allow learners opportunities to acquire a set of *habits of mind* (Markham, 2011), such as critical and creative thinking, flexibility, decision making, and ability to work in groups (Bell, 2010; Boss, 2012; Larmer & Mergendoller, 2015; Solomon, 2003), as the teacher is challenged to shift roles from lecturer and deliverer of content to guide and facilitator.

Research has also established connections between PBL and 21<sup>st</sup> century skills. Some studies describe PBL as the better deliverer of these skills (Alsop-Cotton, 2009; Bell, 2010; Gunter, 2007), as both are central, rather than peripheral, to the curriculum (Markham & Ravitz, 2003). They promote inquiry (Barell, 2003; Bender, 2012), creativity and innovation (Bender, 2012), critical thinking and collaborative problems solving, authentic use of technology (Larmer & Mergendoller, 2015), rapport among diverse learners (Markham & Ravitz, 2003), intrinsic motivation (Markham, 2011), and life and career readiness skills (America Achieves Educator Networks, 2018).

Web 2.0 encompasses a range of applications (e.g. blogs, wikis, multimedia sharing, audio blogging, podcasting, syndication) which involve user-generated content, content sharing, and the collaborative use of the web as a platform for generating, re-purposing and consuming content (Franklin & van Harmelen, 2007; Redecker, 2009).

Other research (Figuerola-Flores, 2015; Luo, 2013; Wang & Vásquez, 2012) suggests that the integration of Web 2.0 applications into language education has not only revolutionized the field but also been advantageous for teachers and learners alike through the provision of real-life learning scenarios which promote communication, collaborative learning, and deeper levels of understanding of learning (Bartolomé, 2008; Boss, 2012; Markham, 2011).

Despite the dearth of research on the integration of Web 2.0 and PBL, this integration has a lot of promise, as both potentially construct a learning environment which fosters the language learners' knowledge and skills. The combination of Web 2.0 and PBL has made it possible for learners not only to study alone, but also to share their experience and work collaboratively in real-time, individually, or in groups.

To the researchers' best knowledge, the research on the effectiveness of Web 2.0-supported PBL in language learning is scarce in both the international and Jordanian contexts (Chang, 2014; Elam & Nesbit, 2012). Thus, this research aims to gain better insights into the effectiveness of Web 2.0-supported PBL in improving Jordanian EFL learners' speaking skills, which is an important goal of teaching English in Jordan (Bataineh et al., 2017).

## **2. The study**

### **2.1. Problem, purpose, and research questions**

The authors, EFL practitioners for over two decades, have observed first-hand how challenging speaking is for Jordanian EFL learners, an observation which may be universal rather than peculiar to Jordan. Fitriani et al. (2015), for example, claim that speaking is a challenge for EFL/ESL learners because it requires not only knowing the grammar of a language but also using that language in authentic contexts.

A plethora of research has reported that Jordanian EFL learners face difficulties in oral communication in English (Bani Abdo & Bereen, 2010; Bataineh et al., 2017; Yaseen, 2018), probably because these learners have relatively little opportunity to speak English in a context where it is taught as a school subject with no or little contact with English outside the language classroom.

A more learner-oriented approach rather than the current teacher-centered approach may offer Jordanian learners better opportunities to speak for meaningful purposes. Coupled with the support of Web 2.0, PBL may allow these learners an opportunity to engage in a learning environment in which authentic communication, collaboration, and active learning may take place.

Thus, this research examines the potential effectiveness of Web 2.0-supported project-based learning in developing Jordanian EFL learners' speaking fluency and accuracy of grammar and vocabulary. More specifically, it seeks to answer the following question: To what extent, if any, does Web 2.0-supported project-based learning affect Jordanian EFL learners' speaking fluency and accuracy of grammar and vocabulary?

This research is one of the first to examine the effectiveness of Web 2.0-supported PBL in improving speaking, a potentially challenging skill for all EFL learners. Because research on the effectiveness of Web 2.0-supported PBL in improving speaking is rather scarce, it could be beneficial to highlight research both on the effectiveness of PBL and that of Web 2.0 applications, besides any found on Web 2.0-supported PBL.

There has been a good body of research which supports the potential effectiveness of PBL in improving EFL speaking (e.g., Al-Masadeh & Al-Omari, 2014; Anuyahong & Road, 2015; Castaneda, 2016; Dewi, 2016; Essien, 2018; Farouck, 2016; Maulany, 2013; Rochmahwati, 2015; Vaca Torres & Gómez Rodríguez, 2017; Zhang, 2015). Research suggests that Web 2.0 (e.g. *YouTube* - Bataineh & Al-Refa'i, 2019; Kuswara, 2015; Riswandi, 2016, as well as social network sites - Chang, 2014; Popescu, 2014) are potentially effective in enhancing speaking. However, even though the research on the effectiveness of a Web 2.0-supported PBL is scarce, what little is there suggests that the integration of Web 2.0 and PBL is a viable solution.

More related to this research, Elam and Nesbit (2012) reported that a combination of PBL and Web 2.0 tools is an effective means to the acquisition of language skills, but, to the best of these researchers' knowledge, no research exists on their role in improving EFL speaking. As this research could bring about insights into the effectiveness of Web 2.0-supported PBL in improving speaking fluency and accuracy of vocabulary and grammar, the instructional treatment involves the purposeful utilization of multiple Web 2.0 applications (e.g. *YouTube, Facebook Messenger, Weebly, Wikipedia*) throughout each project.

However, it is worth noting that most of the skills inherent in project-based learning lend themselves better to knowledge-building than rote memorization, which may explain the conflicting reports that PBL is not the most effective approach when standardized testing is involved (Quigley, 2010; Thomas, 2000). However, it yields superior results when long-term knowledge retention and application of concepts are sought (Geier, Blumenfeld, Marx, Krajcik, Fishman, Soloway, & Clay-Chambers, 2008; Strobel & van Barneveld, 2009).

## 2.2. Method, sampling and instrumentation

This study uses a quasi-experimental design, as a purposeful sample of 43 EFL eleventh-grade students are divided into an experimental group (n=21) and a control group (n=22) from Al-Koura Directorate of Education (Jordan) in the academic year 2018/2019. The experimental group was taught through Web 2.0-supported PBL whereas the control group was taught per the guidelines of the prescribed Teacher Book.

A speaking pre-/post-test and a scoring rubric were used to collect the data from the participants. The test was designed in light of the speaking activities in the first three modules of the prescribed textbook, *Action Pack II*. The pre-test assessed the participants' speaking performance before the treatment whereas the post-test measured the potential effect of Web 2.0-supported PBL instruction on their speaking fluency and accuracy of grammar and vocabulary.

The test, which was administered individually to each student for about 25 minutes, consisted of four parts: an interview (seven items), a talk about a topic, a talk about a situation, and expressing personal opinion about a given topic. The scoring rubric, adapted from Harris (1969), uses an analytical five-point scale to measure the levels of improvement in speaking fluency, accuracy of grammar, and accuracy of vocabulary.

The validity of the test was established by a jury of EFL specialists whose feedback was used to amend the test. To establish the reliability of the test, a pilot study of 18 students, who were tested and retested, was conducted with a two-week interval. Pearson's reliability coefficients for the speaking fluency, vocabulary accuracy, and grammar accuracy amounted to 97.6, 97.5, and 97.6 respectively, with an overall coefficient of 98.8 which was deemed appropriate for the purposes of the research.

The content of the project section of the textbook was taught to both the experimental and control groups. However, while the former was taught through Web 2.0-supported PBL, the latter was taught per the guidelines of the Teacher Book. The instructional treatment comprised redesigning the speaking content in the project section of the first three modules of *Action Pack II* (viz. Free-time, Plan a Celebration, and Search a Sport) per the PBL model. The redesigned content was further supported by the purposeful use of several Web 2.0 applications (viz. a *Weebly* website, a teacher website, *Facebook Messenger* group, *YouTube*, blog, *Wikipedia*).

The speaking content in the project section of the first three modules in the textbook was incorporated into a free website. The participants, who were distributed into four (three five- and one six-member) groups, were introduced to PBL, Web 2.0 applications, and *Weebly* website, as the teacher/first researcher modelled using *Weebly*, creating pages, and adding

content personally and using *YouTube* videos. The importance of student collaboration was also addressed as a catalyst for success.

Supervised by the teacher/first researcher, the members of each group elected a leader and collaborated to create their own website and add content under the three themes (viz. Free Time, Plan a Celebration, and Search a Sport), which culminated in four distinct websites. The teacher/first researcher created a group on *Facebook Messenger*, dubbed *Creative Builders*, to facilitate communication with and among the four groups at all times (e.g., sharing their website addresses, asking know-how questions, announcing adding new content, seeking teacher or peer assistance).

Through the *Facebook Messenger* group, *Creative Builders*, there were discussions of processes, reflections of students' opinions, exchange of ideas and information, and feedback on their progress and performance in the oral presentations (the teacher/ first researcher and the students agreed on time to be online via the messenger group).

Thus, Web 2.0 was utilized throughout the treatment not only as a source of information and a tool for developing oral presentation but also as a means for communication and follow-up of learners' performance. The websites also constituted a final product and a medium through which the participants exhibited their work.

The members of each group engaged in critical thinking, research practice, and decision-making as they worked on supplementing the content of their respective websites along the three themes. They delegated tasks amongst themselves, as each member researched the topics through various Web 2.0 applications. They also organized and analyzed the data they collected from Web 2.0 and agreed on the content to be used in their websites. They used *Weebly Builder* tools (<https://www.weebly.com/websites?lang=en>) to create and develop their websites. For two weeks, they experimented with Web 2.0 tools based on relevance and reader appeal. After developing each website, each group presented their products to the class, after which individual participants visited the websites and posted comments on their content.

After each session, there was a follow-up activity to communicate ideas, discuss topics, and keep record of student progress through the messenger group. Students also visited the teacher website and used Web 2.0 applications for independent learning.

Once done with building and collaborating in critiquing and developing the website, the participants alternated in presenting their work orally to the school principal, teachers of English, and other interested school personnel (13 people in total) in addition to their teacher and classmates. They also answered audience's queries and requests for further explanation.



The treatment lasted for eight weeks and was divided into seven stages. The first stage (one week) was to introduce the groups to the treatment, the idea of the project, its stages and procedures, and *Weebly*. The second stage was to establish the groups' websites using *Weebly*. The third, fourth, and fifth (two weeks each) stages were dedicated to developing the content of the group websites per the themes of the projects under study in *Action Pack II*. The sixth stage (one week) involved reviewing and revising each website to each group's satisfaction prior to the seventh stage (one week) in which the participants presented their developed websites to an audience.

The activities of the treatment comprised group-work, follow-up, and independent learning activities. The participants worked collaboratively in groups to discuss the themes of each website, exchange opinions, agree on sub-topics, look for and organize information, negotiate the most appropriate tools from the *Weebly Builder*, edit websites, and present orally to the other participants. Follow-up activities commenced after every lesson through *Creative Builders* through which the teacher/first researcher monitored the progress in developing the websites, provided feedback on performance, exchanged opinions about the themes, and sought reflections on the oral presentation.

### 2.3. Results and discussion

In order to answer the research question to what extent, if any, Web 2.0-supported PBL instruction affects Jordanian EFL learners' speaking fluency and accuracy of grammar and vocabulary, the means and standard deviations of the learners' scores on the speaking pre-/post-tests in vocabulary, grammar, and fluency were calculated, as shown in Table 1.

Table 1. Means and standard deviations of the participants' scores on the pre-/post-tests

Skill	Group*	Pre-Test		Post-Test		Adjusted Mean	Standard Error
		Mean	SD	Mean	SD		
Vocabulary	Control	9.40	2.97	11.04	3.22	10.83	0.31
	Experimental	8.95	2.78	14.76	2.98	14.98	0.32
Grammar	Control	8.63	3.07	10.50	3.23	10.37	0.39
	Experimental	8.38	2.72	11.38	3.65	11.51	0.40
Fluency	Control	8.27	2.56	10.00	2.77	9.98	0.31
	Experimental	8.23	2.64	13.90	3.33	13.92	0.31
Total	Control	26.31	8.14	31.54	8.88	31.15	0.74
	Experimental	25.57	7.79	40.04	9.56	40.45	0.76

\* n (Experimental)=21, n (Control)=22

Table 1 shows observed differences between the mean scores of the experimental group and the control group on the post-test on all three skills and in favor of the latter. To determine whether or not these difference are statistically significant, One-Way ANOVA was used, as shown in Table 2.

Table 2. One-way ANCOVA of the participants' scores on the speaking post-test

Skill	Sum of Squares	df	Mean Squares	f	Sig.	Partial Eta Squared
Fluency	166.83	1	166.83	78.83	0.000*	0.66
Vocabulary	184.10	1	184.10	85.95	0.000*	0.68
Grammar	13.84	1	13.84	3.99	0.050*	0.09
Speaking (overall)	927.78	1	927.78	76.15	0.000*	0.65

\* significant at  $\alpha = 0.05$

Table 2 shows statistically significant differences (at  $\alpha = 0.05$ ) between the mean scores of the two groups on the individual skills of speaking fluency and accuracy of grammar and vocabulary and on speaking as whole, in favor of the experimental group.

As the participants engaged in extensive speaking practice, through the integration of Web 2.0 and PBL throughout the treatment, the researchers observed first-hand these participants' enthusiasm to learn and keenness to create websites representative of their respective personalities and aptitudes and, simultaneously, gain in fluency, accuracy, and confidence in their ability to speak.

The individual and group work activities, which culminated in the oral presentations to two distinct audiences, ran smoothly and fostered the quality of both the processes and products of the project. Each group collaborated to construct a website, through a structure of interrelated activities which entailed negotiating and agreeing on sub-topics, assigning roles to group members, determining the most appropriate Web 2.0 applications to use, analyzing and organizing ideas, negotiating and agreeing on appropriate *Weebly* builder tools to use, editing, refining, and developing website content per teacher and peer feedback, presenting the websites, and, eventually, reflecting on their own oral performance. These activities have afforded the participants a meaningful context for learning and, at the same time, improving their speaking.

The treatment was purposefully structured according to authentic learner-centered activities (e.g., individual and collaborative decision-making, sifting through and selecting

content to include in the websites, negotiation, and independent acquisition of knowledge and skills using Web 2.0 applications. This culminated in improved learner ownership of and responsibility for learning.

The treatment involved the authentic and meaningful use of the foreign language to communicate ideas and negotiate meaning, which has potentially created a context of learning at each stage of the project which served as a catalyst for learning and an occasion for reflection on strengths and areas which need further development.

The integration of Web 2.0 and PBL has also provided the participants with a non-threatening learning environment in which they were encouraged to use the foreign language with confidence and without fear of reprimand or ridicule. *Creative Builders* has also provided a haven from immediate criticism of performance, as the participants were messaged feedback as either text or audio-recording. Thus, deterrants of success, such as anxiety, shyness, and fear of judgement were kept to a minimum, if not avoided altogether.

The fact that the learners were also given ample opportunities to practice language in- and outside the classroom may have served as a catalyst for their improved performance. For instance, to develop a website on a particular theme, the learners needed to access Web 2.0 applications (e.g. blogs, *Wikipedia*, websites) to read about the topics, search for information in- and outside the boundaries of the classroom, analyze and organize ideas, express, discuss, and exchange ideas, negotiate, edit, and incorporate appropriate content into the websites, and present to an audience.

The treatment was designed to maintain a balance between the development of fluency and accuracy of grammar and vocabulary. Every lesson offered an opportunity to practice speaking, as the Teacher Website gave ample opportunities to learn language forms and functions which were then used in group discussions of topics. The follow-up practice through the *Facebook Messenger* group (aka, *Creative Builders*) addressed strong and weak areas of their performance, and they were given opportunities to reflect on their own and peer performance.

### **3. Conclusions, pedagogical implications and recommendations**

The participants seem to have benefited from the Web 2.0-supported PBL, as gains in their speaking fluency and accuracy of grammar and vocabulary were noted. However, more research needs to be conducted before any definitive conclusion can be drawn.

Project-based learning constitutes a departure from traditional instruction, as teachers shift from micro-managing the teaching/learning process to facilitating student inquiry and

hands-on learning. This often requires more time and resources (Barell, 2010; Bender, 2012), but the return is well worth the investment, as PBL promotes innovative approaches to teaching and learning and improved classroom dynamics.

However, this is by no means to imply that direct instruction is without merit. On the contrary, there are many classroom scenarios where the teacher has to resort to direct instruction to address certain learner needs (Markham & Ravitz, 2003), especially in contexts where more attention is given to standardized testing (Strobel & van Barneveld, 2009; Thomas, 2000) than problem solving and skill application (Markham & Ravitz, 2003).

This highlights the need for professional development efforts to bring the teachers up to par with the dynamics of PBL instruction, as the restrictions in time and resources may impede the implementation of project-based learning into the EFL classroom. The establishment of professional learning communities may also catalyze both teacher agency and student learning (Thorpe & Burgess, 2012).

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## INTEGRATING INSTAGRAM INTO EFL WRITING TO FOSTER STUDENT ENGAGEMENT

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### Abstract

Engaging students in writing is a challenge for language teachers. Nowadays, some students have low engagement in writing classes because the genres of writing inside the classes are disconnected from students' real lives. Since today's students are close to social media, integrating it into writing activities can promote student engagement in the learning process. One of the popular social media that can be incorporated into the writing process is *Instagram*, which is featured with a photo caption where students can write text messages. The present study aimed to investigate how the implementation of *Instagram* can promote student engagement in EFL writing. This exploratory study used a qualitative research design. The participants of this study were forty-five students enrolled in writing courses and one lecturer of writing. The data were obtained through a semi-structured interview with the lecturer and seven students, classroom observations, and Instagram documentation. The findings showed that *Instagram* promoted student engagement in five ways, namely allowing the students to be more actively involved in the learning process, providing a new learning environment for the students, providing greater target readers, allowing the collaboration and interaction between the students, and facilitating the students to choose their own learning style during the process of writing.

**Keywords:** student engagement; EFL writing; *Instagram*; social media; learning technology

### 1. Introduction

Student engagement plays a significant role in encouraging learners' positive attitudes and behaviors, as well as increasing their success and sense of learning ownership (Oliveira, 2012). The notion of engagement refers to "the amount of physical and psychological energy that the students devote to the academic experience" (Astin, 1999, p. 518), which could affect students' positive learning outcomes (Lester, 2013), such as increasing grades and satisfaction (Abas, 2015). In this sense, students who are engaged in the learning process should do better than those who are not engaged (Abas, 2015).

Since engagement is one of the important aspects of language learning, language teachers need to find ways to promote it. One of the ways to boost student engagement is to integrate technological tools in the process of language teaching and learning. The integration of technology in language learning can encourage students to be more engaged in the learning process (Costley, 2014), provide a new learning environment and foster student-centered learning (Oliveira, 2012).

One of the current technologies which can be integrated into language classroom is social media. Social media are Internet-based applications and technologies for Web 2.0 which allow users to create and exchange the content (Kaplan & Haenlein, 2010, as cited in Mbodila, Ndebele, & Muhandji, 2014). Due to their growing popularity, social media can be suitable educational tools to engage students in language learning. Increasingly, language teachers have been attracted to use social media in language learning to engage and motivate students to be more active learners (Junco et al., 2011). Social media are also favored by the students because they use them every day to share their feelings, ideas, thoughts and life stories. The incorporation of social media into language teaching and learning enables the students to use the language learned inside the classroom in their real lives. As a result, social media can engage the students in the learning process inside and outside the classroom (Unitec & Macquarie, 2017) while increasing their level of engagement and allowing students to have a high level of interaction with others (Ternes, 2009).

The use of social media to engage students in the learning process has attracted many researchers. Akbari, Naderi, Simons, and Pilot (2016), for example, investigated the use of *Facebook* to increase student engagement in foreign language learning. The researchers compared the control group which used face-to-face learning and the experimental group using blended learning by integrating *Facebook* in the learning process. The findings revealed that the experimental group had higher outcomes in the TOEFL post-test than the control group. The students from the experimental group enjoyed interacting with their teachers and peers through *Facebook*. They spent their time and effort to do collaborative and educational activities. The study concluded that the experimental group showed a higher level of engagement than the control group.

In another study, conducted by Mbodila, Ndebele, and Muhandji (2014), the effect of *Facebook* on student engagement and collaboration was investigated. The findings of the study revealed that *Facebook* helped the students to interact with other students and lecturers. It engaged the students in collaborating with others and finding more information about the learning materials.

An experimental study conducted by Junco, Heiberger, and Loken (2010) investigated the effect of *Twitter* on college student engagement and grades. The results showed that the experimental group had a greater increase in engagement than the control group. The study concluded that *Twitter* could be an effective learning tool to engage students to participate more actively in language learning.

Another popular social media which can be implemented in language learning and teaching is *Instagram*. It is the first photo social platform that allows users to upload their pictures or videos using a caption (Desreumaux, 2014). *Instagram* is close to students' lives because the students access it every day. The number of *Instagram* users in Indonesia is rising daily. As of April 2020, there were 64 million *Instagram* active users in Indonesia. Indonesia was ranked in the fourth position as the largest *Instagram* audience worldwide after the United States with 120 million users, India with 88 million users, and Brazil with 82 million users (Clement, 2020). Thus, *Instagram* has the potential to be integrated into English language learning in Indonesia to promote student engagement.

This paper reports a part of a bigger study on the implementation of *Instagram* in EFL writing courses. This paper focuses on how the implementation of *Instagram* can promote student engagement in EFL writing. Student engagement is important to be promoted in EFL writing because writing activities inside the classroom may not fully engage students in the learning process (Andrews & Smith, 2011) and may lead to writing anxiety (Arindra & Ardi, 2020). Writing activities inside the classroom are disconnected from activities outside the classroom which are close to students' real lives. Writing activities outside the classroom can promote student engagement because the students have clear target audiences for their works, and they can relate their writing to their world. Accordingly, *Instagram* is a technological tool that potentially facilitates the students to get more engaged in EFL writing (Kelly, 2015). Therefore, the current study sought to examine whether the implementation of *Instagram* can promote student engagement in EFL writing.

## **2. Literature review**

### **2.1. Student engagement in language learning and teaching**

Engagement is defined as “the amount of physical and psychological energy that the students devote to the academic experience” (Astin, 1999, p. 518). It is often associated with the efforts, behaviors, and experiences that the students devote to educationally purposeful activities contributing directly to desired learning outcomes (Fredricks, Blumenfeld, & Paris, 2004; Hu &

Kuh, 2002; Lester, 2013). In other words, student engagement is the result of the meaningful learning which is experienced by the students during the learning process.

Student engagement plays a great role in language teaching and learning processes because the students who are engaged often work well in the learning process (Abas, 2015). They spend their time and effort working on their assignments and actively engaging in the learning process. They show their interest in learning and working on the learning materials, while they face and solve obstacles in the learning process, and they feel satisfied after they finish working on it (Oliveira, 2012). As a result, student engagement can increase the positive learning outcomes (Lester, 2013) as well as the students' success, such as the high grades and student satisfaction, the positive attitudes and behaviors of students, and a sense of belonging among them (Abas, 2015; Oliveira, 2012).

Oga-Baldwin (2019) mentioned four interrelated aspects of engagement, namely behavior, emotion, cognition, and agency. Behavior is the most visible marker of engagement, which can be observed through body language, gaze and response to instructions. Behavioral engagement is argued to instigate the other aspects of engagement. Another aspect is emotion, which refers to students' affective involvement in learning processes. Students who are behaviorally engaged are likely to be emotionally engaged, too. The next aspect, cognition, deals with what students think. Even though cognition is difficult to be observed, cognitive engagement is shown in the quality of academic works that the students produce. Lastly, agency is associated with students' contributions to the improvement of the learning environment and the quality of instruction. It can be expressed through clarifying learning materials, expressing ideas and opinions, as well as asking for meaningful inputs.

In this digital era, English teachers can engage their students through online courses and digital tools (Barkley, 2010; Koltovskaia, 2020). The students can learn English through websites or any new trends in education. English becomes easier to be learned because the students can access many sources easily through technology. The learning process is hence easier and more enjoyable (Sarica & Cavus, 2009). This development supports the idea that integrating technology in language learning is one of the effective ways to enhance student engagement (Oliveira, 2012).

## **2.2. The use of technology to engage students in language learning**

Using technological tools inside the classroom is one of the effective ways to motivate students in learning in the 21<sup>st</sup> Century (Oliveira, 2012). In terms of improvement, technological tools give various options for making teaching more interesting and productive (Shyamlee & Phil,

2012). The integration of technology in language classrooms also supports the development of 21<sup>st</sup> Century skills, such as collaboration, digital literacy, critical thinking, and problem-solving (Oliveira, 2012).

The integration of technology in language learning often brings several advantages for students. First, it increases students' motivation, independence, and self-confidence (Andrade, 2014) because "technology provides greater opportunity for the students to express themselves" (p. 33). It means that technology frequently provides various activities and practices which can be done by the students autonomously. For instance, students can write something and share it with their friends and relatives (Andrade, 2014). Second, technology also facilitates students' independence because technological tools can enhance learner autonomy in language learning (Ardi, 2017; Pasaribu, 2020). In this regard, technologies typically enable the students to learn English at their own pace, place and time. Third, using technology in the language learning classroom can also increase students' motivation, decrease anxiety, create student-centered approach, allow students to have a more authentic learning process and provide greater language production (Jin et al., 2006, as cited in Andrade, 2014, p. 34).

The integration of technology in language learning encourages students to be more engaged in the learning process (Costley, 2014). First, the use of technology inside the classroom can create a new learning environment for the students, which can engage the students more in the learning process (Oliveira, 2012). Second, implementing technology in language learning can foster a student-centered approach, which is usually considered as one of the effective ways to engage the students. Accordingly, the combination of a student-centered approach and technology use in the classroom creates a dynamic learning environment where the students get engaged and participate in the learning activity. As a result, there should be more positive outcomes in the classroom (Dornyei, 1994, as cited in Oliveira, 2012).

One of the technologies that are commonly used in language learning is social media. Social media have become a part of students' lives so that the students often access them (Junco et al., 2010, as cited in Al-Bahrani, Patel, & Sheridan, 2015). The popularity of social media among the students can make them more engaged outside the class because they are familiar with this kind of technology. Besides, integrating social media in the learning process enables teachers to meet the students in the virtual space where they have already become active (Al-Bahrani et al., 2015). Therefore, the use of social media can encourage students to be more active in the learning process.

The use of social media in the learning process allows the students to have peer-to-peer contact to provide the students with richer learning experiences (Ternes, 2009). The interaction

with the material can be considered as “commenting, reshaping, and sharing the messages” through their social media (p. 1). The students directly spend their time and energy to develop the material. Moreover, the interaction on social media provides immediate feedback, support and challenge among the students.

The implementation of social media in the learning process allows the students to invest their time in it (Purvis, Rodger & Beckingham, 2016). The students are required to spend some amount of time to work on their assignments on social media. It can optimize the time-on-task, which encourages the students to create more student engagement. As a result, the students invest their time and energy in this learning process.

*Instagram*, a photo social platform established by Kevin Systrom and Mike Krieger in 2010, is one of the popular social media nowadays. It was then bought by *Facebook* in April 2012 (Desreumaux, 2014). This application aims to share users’ photos or videos with other people (Muwafiqi, 2017). This kind of social media also allows the users to upload the photos and choose the photo filter to adjust the appearance of the picture (Ferwerda et al., 2016). *Instagram* allows users to write down the description of the photos or videos through captions (Kelly, 2015). Moreover, *Instagram* has other interesting features, such as Instagram Story, live video streaming, direct message, group messaging, image editing, location tagging, commenting, mentioning, video editing tools, search functions, user tagging, user profile, hashtags, and filters (GetApp, 2017).

*Instagram* is one of the social networking tools which can be implemented in language learning since it is accessible for everyone. Khalitova (2016) argues that *Instagram* is a tool that is quick and easy to be accessed as a mobile application by the students. *Instagram* has a bright interface and interesting content, which can make the learning process more motivating. Moreover, through *Instagram*, the students gain the possibility to learn the English language anytime and anywhere (Khalitova, 2016) because they can access it easily through their smartphones. *Instagram* is also a platform that can help the students to learn English by enriching their language learning experiences (Hadiyanti & Simona, 2016).

*Instagram* is one of the social media platforms that can be integrated into writing classes. The tool facilitates authentic resources of visual text and audio to the students. Integrating *Instagram* in writing instruction can give the students a new experience of learning EFL writing (Kurniawan & Kastuhandani, 2016; Purnama, 2017) because it allows the students to read and write through photo description or caption, comment and direct messaging (Kelly, 2015). *Instagram* has a limit of 2200 characters, which encourages its users to write extensive texts. Therefore, it is different from *Twitter*, which allows only a very limited number of

characters. Moreover, *Instagram* has certain features which allow the students to discuss their writing through feedback messages (Kurdi, 2017). Thus, it is possible for teachers to give feedback after the students upload their writings.

*Instagram* can be a medium for increasing students' writing skills. Hadiyanti and Simona (2016) state that *Instagram* can enhance students' writing skill by giving comments on the photos or videos and writing some captions or hashtags which are uploaded by the students. Furthermore, the students also get better inspiration to create texts since the platform provides spaces for pictures or videos which can support them to arrange good writing (Muwafiqi, 2017). In other words, the students have more opportunities to develop their writing skills especially while improving the structure, coherence, and thematic development of their writing (Kelly, 2015). Therefore, *Instagram* can provide opportunities and assistance for the students to improve their skills in writing.

Writing captions on *Instagram* helps the students feel greater authenticity and purpose than in the traditional writing assignments which can only be seen only by the teacher (Kelly, 2015). In this sense, *Instagram* can help the students to increase their awareness of their readers. Thus, the students become more aware of their language because their posts can be seen by everyone. As a result, the students encourage themselves to give their best in writing to make a well-arranged writing product (Muwafiqi, 2017).

### **2.3. Instagram as a tool of multimodal writing**

According to Andrews and Smith (2011), nowadays writing in the classroom is disconnected from students' lives. The students are more aware of the genres outside the classroom. Hence, writing outside the classroom can engage the students because it is connected to real-world experiences. Moreover, this real engagement provides the students with greater audiences of their work and increases their motivation in writing. Therefore, they give their best in writing to produce accurate writing. Writing outside the classroom also allows the students to have a sensory experience in the real world. It can produce the writing product which is different from that with the simulated world in the classroom (Andrews & Smith, 2011).

In this digital era, the proliferation of technology enables students to create multimodal texts. *Instagram* is one of the potential platforms that facilitates the students to write in multiple modes. First, it allows the students to write a caption as a text. The caption is used to describe photos or videos which will be uploaded later by the students. Each caption is 2200 characters for maximum (Kelly, 2015). Indeed, writing activities on *Instagram* can facilitate several modes in one activity. First, the students are allowed to write a text on the new mode using

social media. Second, the students have pictures and videos which can help them to produce a text (Andrews & Smith, 2011). The pictures and videos can stimulate the students to write a text. Thus, they can help the students to avoid students' blank page syndrome.

### 3. Methodology

#### 3.1. Research design

This paper is a part of a larger qualitative study that examined the implementation of *Instagram* in EFL learning. The study took place in two writing classes, consisting of 45 first-year students, at the English Language Education Study Program of Sanata Dharma University, Indonesia, during the academic year of 2017/2018. Both classes were taught by the same lecturer, focusing on composing a good paragraph with the use of *Instagram*.

There were several steps to the implementation of the platform in the writing instruction:

- 1) The lecturer announced the topic of the writing project.
- 2) The students were asked to browse and download pictures related to the topic.
- 3) The students started writing a draft.
- 4) The students did peer editing.
- 5) The students revised their writing based on their peer's suggestions.
- 6) The students uploaded the pictures and texts on *Instagram*.
- 7) The students were asked to give comments or feedback on at least three other students' works.

#### 3.2. Data collection and analysis

The data were collected through observations and interviews. The observations aimed at describing behaviors, settings and interactions (Ary et al., 2010). In this data-gathering technique, the researchers played the role of participant-observers. In this role, the researchers built a relationship with the participants but did not get involved in the activities of the class. The status of an observer was known to the participants (Ary et al., 2010). Therefore, the researchers were given time to introduce themselves in front of the class by the lecturer. The purposes of conducting the observation were to investigate the real process of the implementation of *Instagram* in the writing class and to build the relationship with the participants so that they would trust the researchers in the interview. Thus, the participants



could feel open to giving detailed and reliable information related to the questions in the interview.

During the observation, the researchers captured the implementation of *Instagram* in the writing classes. Besides, students' interaction, collaboration and social engagement performed by the students on the *Instagram* comment columns were observed and documented. The data were in the form of the screenshot of *Instagram's* posts.

The interview was used to explore and investigate how the use of the platform promoted student engagement in writing. According to Creswell (2009), interview is the process of collecting data which involves unstructured and open-ended questions to get the data from the participants by face-to-face communication. It is used to collect the information from people about their opinions, beliefs, and feeling related to a certain situation in their own words (Ary et al., 2010). An interviewer needs to go deeper, pursue an understanding of the complexity and build the relationship with someone to share their perceptions about the world (Richards, 2003). The researchers conducted interviews with the lecturer and seven students to get detailed information related to those two research questions. The students were coded as P1, P2, P3, P4, P5, P6, and P7, respectively.

While conducting this interview, the researchers used open-ended questions to allow the participants to give their best answers related to their experience without getting any interference from the researchers (Creswell, 2012). Thus, the participants could describe and give detailed information related to the questions. In this study, the researchers conducted one-on-one interviews. This type of interview allowed the researchers to ask some questions to only one participant at a time (Creswell, 2012). Additionally, the researchers also used semi-structured interviews, allowing the researchers to ask questions which are formulated beforehand and modify the questions during the interview process (Ary et al., 2010).

The results of the interviews were analyzed through several steps. First, the interviews were transcribed. "Transcript allows the sort of focused attention on minutiae of talk that promotes insights into technique and content" (Richards, 2003, p. 81). It helped the researchers to analyze the data more easily. Second, the researchers did the member checking by giving back the results of the interview to the interviewees to ensure the validity of the interview. Third, the researchers categorized the data in the transcript. Fourth, the researchers reduced the data by deleting the information which was not related to the research question.

The data from the observation and interview were confronted to provide a thick description of the implementation of *Instagram* in the writing processes to boost student engagement.

### 3.3. Findings and discussion

Engagement is a complex set of experiences and behaviors which influence students' outcomes. Engagement is important in English language learning because it can enhance students' positive learning outcomes (Lester, 2013) and increase their learning success, positive attitudes and behaviors as well as learning ownership (Oliveira, 2012). As a result, the students who are engaged in language learning should do better than those who are not engaged, and those who are engaged should get higher grades and satisfaction (Abas, 2015).

Based on the findings, the integration of *Instagram* in the two writing classes promoted student engagement in five ways, namely allowing the students to be more involved in the writing processes, creating a new learning environment, providing greater target readers, ensuring the collaboration and interaction among the students, and allowing the students to choose their own learning style.

#### 3.3.1. Allowing the students to be more involved in the writing process

*Instagram* facilitated the students to be more involved in the learning process, especially in working on their writing project on *Instagram*. The students who were involved in the learning process were more engaged in learning. Student engagement can be promoted by students' interests in working on their tasks, learners' efforts in facing and solving the problems or obstacles and their satisfaction in accomplishing their works (Oliveira, 2012).

The findings revealed that the integration of *Instagram* in EFL writing enabled the students to be more involved in the learning process. First, *Instagram* was one of the social media which are close to students' lives. The students accessed their *Instagram* account every day on their smartphones even though they sometimes just scrolled the timeline or watched the Instagram Story. The participants said:

I usually scroll the timeline to watch the photos or videos, watch the Instagram Story, and read the new information. (P1)

I often open and access Instagram on my smartphone, almost every day. (P2)

Every time I open my smartphone, I usually access Instagram even if it is just for a moment. (P3)

Hence, the popularity of *Instagram* among the students encouraged the writing lecturer to implement this social media in this course. She admitted in the interview:

One of the reasons why I implement Instagram in the writing class because this social media is the door to enter the students' lives. Indeed, Instagram is a popular social media among them.

This statement indicated that *Instagram* allowed the lecturer to meet her students in a virtual space in which the students had already been active (Al-Bahrani et al., 2015). She knew that *Instagram* was a part of the students' lives. Therefore, she decided to incorporate this technology into her writing classes. This echoes Zepke and Leach's (2010) idea that teachers are at the heart of engagement. Furthermore, implementing *Instagram* in writing classes encouraged the students to be more interested in working on the writing projects. Indeed, the students were familiar with *Instagram* because they accessed it every day on their smartphone. In the interview, Participant 5 said:

Basically, we have these writing projects which are close to our lives. So, we do not have any burdens to work on it. In contrast, we really enjoy working on this writing project because it is our habit to write and post something on social media especially Instagram. (P5)

The students were also interested in finishing their writing projects on *Instagram* because social media had a bright interface and interesting features which encouraged and motivated them to express their ideas on writing. In the interview, the participants admitted:

I love writing and posting some quotes on my Instagram Story. (P2)

I love writing on Instagram even though I just write one or two sentences as my photo's caption. (P3)

Those two statements indicated that the students showed their interest in writing on *Instagram* because of its interesting features, namely Instagram Story and photo's caption. The bright interface and interesting content of *Instagram* motivated the students in writing processes (Khalitova, 2016).

Accordingly, *Instagram* was an interesting learning tool for the students in this writing class. They were very familiar with this tool and all of its features. As a result, the students were interested in working on their writing projects on *Instagram*. They were involved and more engaged in the learning process because they were interested in working on their writing assignment (Oliveira, 2012).

Second, the students were successful in facing obstacles in working on their writing projects on *Instagram*. The students could find solutions to overcome their problems by asking their friends, checking the difficult words in the dictionary, and browsing on the Internet. In the interview, the students admitted:

I do not know how to arrange sentences to be a good paragraph. So, I will look for the references and read the articles. I will not copy the sentence but I will copy the structure of that sentence. (P1)

My difficulties in working this writing project are using the correct grammar and dealing with difficult words. Because sometimes, several different dictionaries have different meanings. That is why sometimes I am confused to choose the best word to be used in my writing. So, I will ask my friends as a solution. (P2)

Those two statements revealed that the students tried to overcome their problems and difficulties on their own. For example, P1 tried to look for references and read articles to find out good and correct sentence patterns. P2 tried to overcome her difficulties in grammar and vocabulary by asking her friends. Therefore, the students were involved in the implementation of *Instagram* in the writing classes because they could face and solve their obstacles (Oliveira, 2012) in their own way while working on their assignments.

Third, the implementation of *Instagram* in the writing classes allowed the students to have a feeling of satisfaction after working and finishing the writing project. In the interview, one student said:

I am very satisfied after posting my writing on Instagram. Sometimes, I cannot believe that finally, I could make such good writing with certain topics. (P4)

That statement showed that the student expressed her feeling of being satisfied after working, facing, and overcoming her obstacles in this writing project on *Instagram*. She did not realize that she could produce a good piece of writing on a certain topic. In this case, student engagement was reflected in the feeling of being satisfied (Oliveira, 2012).

### 3.3.2. Providing a new learning environment

*Instagram* as a learning tool in the writing classes provided a new learning environment to the students. The new learning environment could engage the students in the learning process (Hadiyanti & Simona, 2016; Khalitova, 2016; Kurniawan & Kastuhandani, 2016; Muwafiqi, 2017; Oliveira, 2012). The findings revealed that *Instagram* provided a new learning environment for the students, which enabled the students to conduct the writing process, allowing them to write and post the writings on social media not only on the paper, providing an accessible learning tool, and stimulating them to write using photos or videos.

*Instagram* provided a new learning environment for the students. First, the students could experience the writing process on *Instagram*. The use of the platform in writing classes allowed the students to enrich their writing experiences through drafting, writing, publishing and sharing their writing with others.

In the second writing project, there were many steps to writing projects on *Instagram*. First, the students were asked to browse any pictures on the Internet. Second, the students were asked to start writing based on the picture that they chose before. Third, the students were asked to choose a partner to have peer editing. They gave their writing draft to their partner. Thus, their partner could start revising by checking the grammar, spelling, punctuation, and so on. Fourth, all of the students had to give back their peer's work. Therefore, the students could check and revise their own work based on their friends' feedback. Fifth, the students wrote their writing on the Instagram class account. Sixth, the students posted and published their writings on *Instagram*.

The classroom observation showed how the students enriched their experiences in the writing process. They did not write in one sitting but also completed their writing projects in several steps. There were five steps in the writing process, namely prewriting, drafting, revising, editing and publishing (Faraj, 2015). The students conducted the prewriting process by looking for pictures and ideas for their writing. The drafting process was conducted by writing a rough draft related to their topic. The students also had peer editing as the part of the editing process. Their peers could correct the mistakes found in the draft. Besides, the students revised their own writing based on their peers' suggestions. Lastly, the students could publish and share their final writing with others on *Instagram*.

Second, the students who usually worked and submitted their writing projects on paper got a new experience. They did not write their writing projects anymore on the paper. Instead, they got a chance to write and publish their writing on *Instagram*. Thus, the students could upload the pictures or videos and write their writing projects on the photo caption. In this regard, the students gained a new learning environment for writing. The students admitted:

I never write something in a long and detailed form in social media. So, this is my new experience.

(P1)

The positive side of implementing Instagram in the Basic Writing class is to follow the advent of technology and the task is not only focusing on the paper. (P2)

Because if we write only on the paper, only me who knows my own work. Other people cannot read my writing. (P7)

Those statements revealed that the students experienced how to learn and write in the new learning environment (Oliveira, 2012). *Instagram* facilitated the students to write a text on the photo caption. The students were engaged more in working on this writing project because they could explore something new.

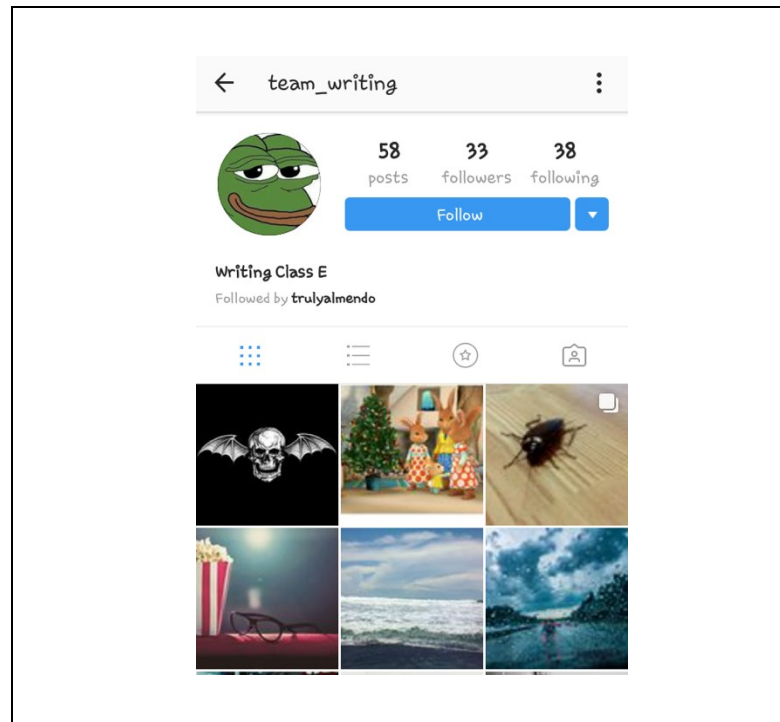


Figure 1. Screenshot of Students' *Instagram*

Third, the new learning environment could be facilitated by *Instagram* features. *Instagram* allowed the students to post and upload pictures or videos related to their writings. As a result, both the pictures and videos helped the students to be more motivated in writing because it could give stimulation to them. In other words, those photos and videos helped the students to get better ideas and inspirations in working on their writing projects. As one student remarked,

The picture helped me to relate the topic and my writing. I could develop my writing to be better using the picture. (P4)

This statement was also supported by the lecturer. She said:

By integrating *Instagram*, the students do not only have experiences with arranging the words but it is also helped by the pictures. So, the pictures can stimulate their writings. Usually, some of the students have blank page syndrome. So, they are confused to start writing. However, when they have pictures, they can get fresh ideas from those pictures.

*Instagram* as the learning tool in the writing classes provided videos and pictures which helped the students to arrange good writing (Muwafiqi, 2017). As a result, the students were not afraid and worried anymore to write because this social media could overcome their blank page syndrome by giving them stimulation through pictures and videos.

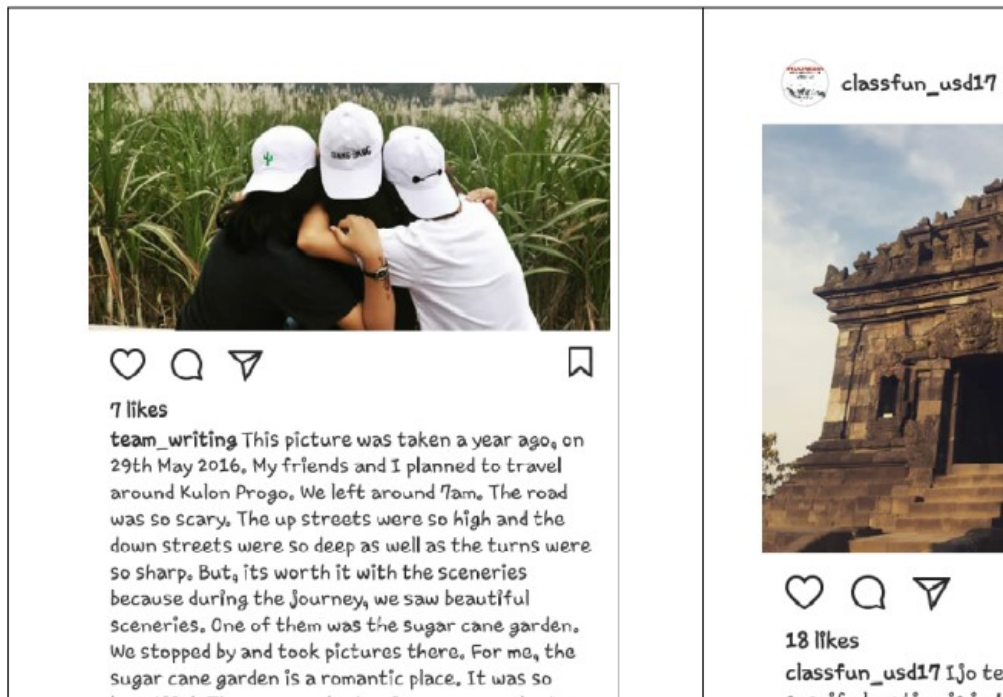


Figure 2. Screenshot of students' paragraphs

Fourth, the implementation of *Instagram* in the writing class also gave the students other new experiences. *Instagram* allowed the students to access and work on their writing projects anywhere and anytime by using their smartphones (Khalitova, 2016). The students were more flexible in working on their assignments. They were not bounded anymore to submit their writing project on the spot. The students said:

Because of this assignment on Instagram, I could submit my work before the deadline since I could directly upload my writing project anytime and anywhere. (P3)

We can work on this writing project anytime and anywhere but we must have internet access. Moreover, we do not need to type our writing project anymore on our laptop and print it in the print shop. (P6)

Moreover, the lecturer also stated:

Instagram is a practical tool to be implemented because it can be accessed anywhere and anytime.

Those statements indicated that the students had possibilities to work on their writing projects anytime and anywhere because they could access Instagram easily through their smartphones (Khalitova, 2016). Besides, the students also could submit their assignments

before the deadline. It could encourage students' behavior to follow the rule or guidelines related to the due date of the writing task.

### 3.3.3. Providing greater target audience

Writing on *Instagram* enabled students to have greater target audience. Public readers or students' followers on *Instagram* could read their postings. The students shared their thoughts in the interview. They said:

Using *Instagram* can make us easily to publish our writing. A lot of people can read our writings.

(P3)

If we write and post our writing on social media (*Instagram*), it will be read by many people so I will show them that my grammar is good. (P4)

The lecturer also added:

Using *Instagram* allows the students to have a sense of audience. If they work on the paper, only me who can read their writings. However, if their writings are published on *Instagram* or other social media, they will give their best in writing. So, they will have greater target audiences in their mind.

Based on the previous statements, the use of *Instagram* in the writing classes allowed the students to feel the greater authenticity of the target audience or readers (Kelly, 2015). Indeed, *Instagram* allowed everyone to read students' writing products.

Having greater target audience, the students were encouraged to be more careful in working on their writing projects. They did not want to make any mistakes since a lot of people would read their writings. In the interview, the students also admitted the same thought that they increased their awareness in working on the writing projects on *Instagram*. They stated:

Of course, I will be more careful in writing. I also ask others' suggestions so I will produce good writing. (P1)

I am more aware of my writing, so if I write a caption on Instagram, I usually pay attention to my writing even if it will not be assessed because many people can read it. (P4)

Because many people can assess us through our writing, so I will post something good. (P6)

Those statements revealed that the students realized they were aware of the greater target readers. Consequently, the students decided to be more aware and be careful in composing the texts. The students gave their best in writing by paying attention and increasing their awareness of their own work. Thus, the students put more effort into it. This statement was supported by the lecturer. She said:



Because they realize that they have greater target readers such as their family members and their friends, they will give their best in writing.

As a result, students' writing products on *Instagram* could be better than the writing products on paper. In the interview, she said:

Maybe, writing projects on *Instagram* give better results. I can compare the writing projects result and the writing test result. Of course, writing on *Instagram* allowed the students to have a better result because they can have a lot of time to prepare their writing. So, writing is a process, right? Besides, writing on *Instagram* makes them prepare for their writing topic more. So, that is one of the reasons why using *Instagram* will make them better especially in writing.

Writing on *Instagram* allowed the students to have greater target audience because everyone could access and read it. It enabled the students to feel greater authenticity (Kelly, 2015). As a result, the students did their best by paying attention and increasing their awareness of their writings. They could make a well-arranged writing (Muwafiqi, 2017). This authentic way of learning encouraged the students to be more engaged in the learning process (Abas, 2015). Thus, student engagement was promoted by having greater target audience on *Instagram*.

#### **3.3.4. Allowing collaboration and interaction among the students**

The implementation of *Instagram* in writing instruction allowed the students to collaborate and interact with others by giving feedback and comments in the comment column. The students could correct others' works by leaving the comments. As a result, they could get feedback on their writing.

The interaction of giving feedback among the students was articulated in the interview.

One student stated:

The positive side of using *Instagram* in this class is allowing others to give comments to our writing. Sometimes, my friends will tell our mistakes and give a correction to me. So, later on, we can correct and revise that mistake. (P7)

The lecturer also said:

Using *Instagram* in this class allows the students to collaborate through peer editing.

The collaboration between the students to give feedback and comment about others' writing is presented in Figure 3. In the figure, Student B gave comments and suggestions to Student A.

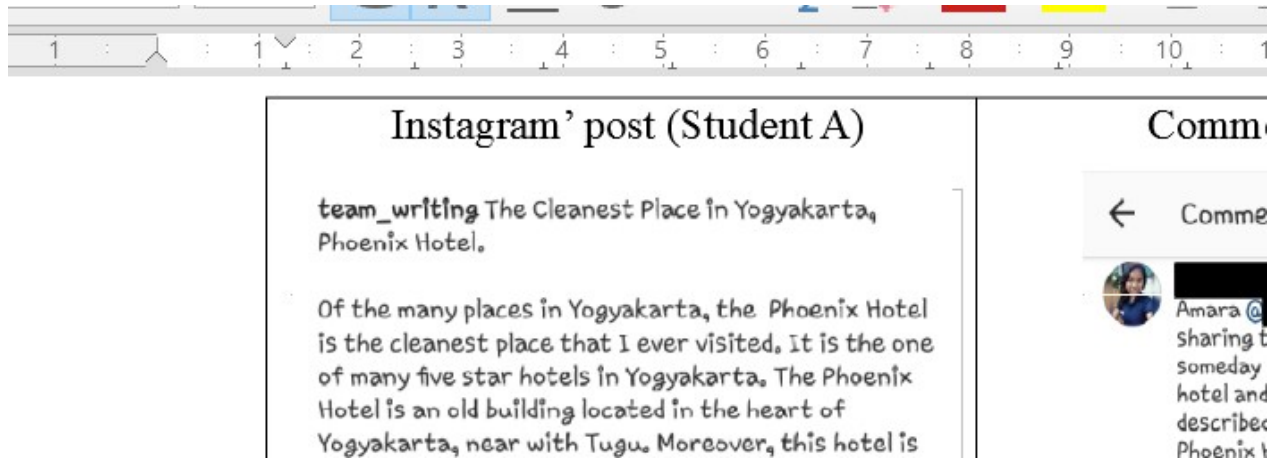


Figure 3. Students' collaboration on Instagram comment column

The students also showed their interaction with other students on *Instagram* by leaving comments and discussing others' work. Figure 4 presents an example of the interaction between two students in commenting on others' work on the *Instagram* comment column. For instance, Student C described a restaurant with a beautiful interior design. Other students, who were interested in going to the place, left their comment and showed their amazement on the comment column.

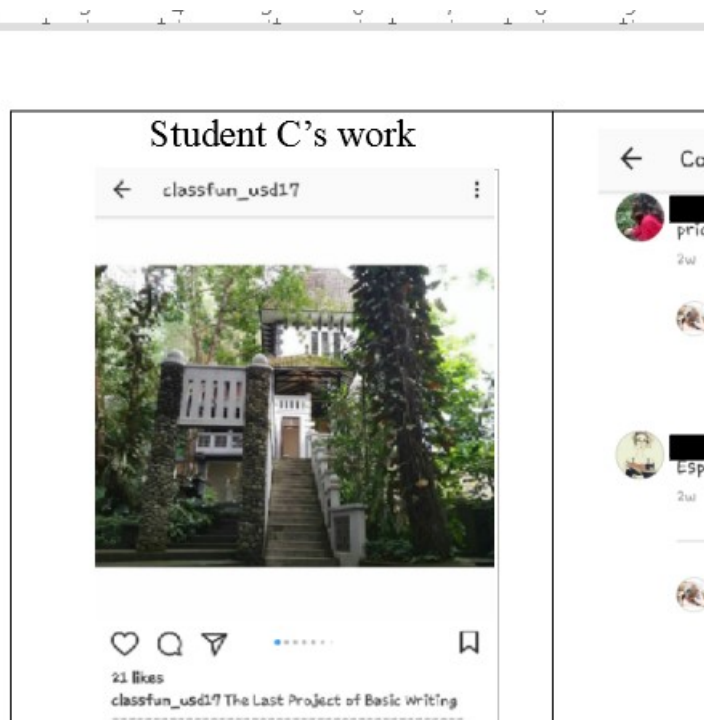


Figure 4. Students' interaction on Instagram

Those two examples of collaboration and interaction showed that *Instagram* allowed the students to have a peer to peer contact which leads the students to have richer experiences (Ternes, 2009) in EFL writing. This collaboration and interaction between peers encouraged the students to get a deeper knowledge of the material outside the class. As a result, *Instagram* could promote student engagement because the students could collaborate with their friends (Mbodila et al., 2014).

### 3.3.5. Allowing the students to choose their own learning style

Incorporating *Instagram* in the writing class encouraged the students to choose their own learning styles. It was articulated by one student in the interview as follows:

Even though I have an idea, sometimes I need a long time to encourage myself to start writing. For example, in this last project, my friend (P2) needs 3 days and the other one (P7) has to arrange his schedule to finish this assignment. However, if I have my own intention to work on the writing project, I will directly type and finish it especially when I have a good mood to work on it. (P3)

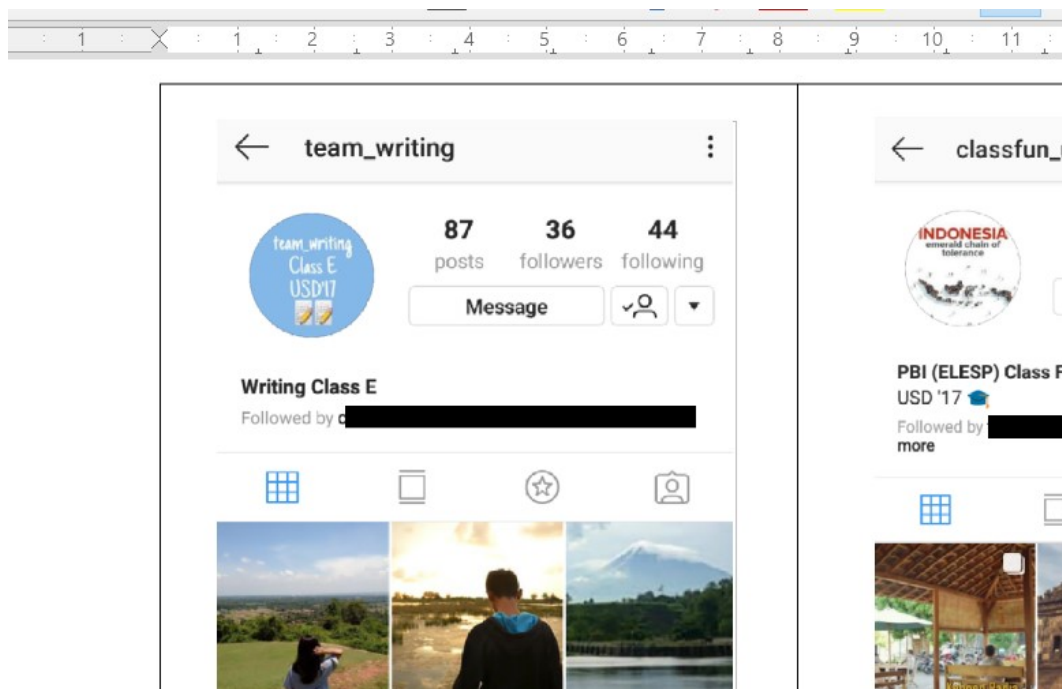


Figure 5. Students' third writing projects

The statement implied that every student followed a different learning style, especially while working on the writing projects. For instance, P2 spent three days doing her writing projects; P7 had to arrange his schedule first; and P3 had to have a good mood first to finish his writing projects. The implementation of *Instagram* in this course created student-centered learning by allowing the students to choose their best learning style (Gelisli, 2009). Thus, the

combination of integrating technology and student-centered learning boosted student engagement (Oliveira, 2012).

#### **4. Conclusions and recommendations**

This paper presents a study examining how the implementation of *Instagram* in two EFL writing classes promotes student engagement. The results show that the implementation of *Instagram* in the writing classes promoted student engagement in five ways, namely allowing the students to be more involved in the writing processes, providing a new learning environment, providing greater target audience, fostering collaboration and interaction among the students, and allowing the students to choose their own learning style. As a result, EFL writing is not disconnected from the real world context outside the classroom, which is experienced by the students daily.

The promotion of student engagement in the writing classes cannot be separated from the affordances of *Instagram*. Its features facilitated interaction, communication and collaboration among the students, which may bring about meaningful learning experiences. The meaningful learning process is a critical factor for the enhancement of student engagement (Abas, 2015).

The researchers recommend that *Instagram* be implemented in EFL writing classes to foster student engagement. As the findings suggested that the implementation of the platform facilitated interaction, communication and collaboration, writing teachers need to create an active and collaborative learning atmosphere that explores students' real lives. Since the present study only focuses on how the implementation of *Instagram* to enhance student engagement in EFL writing, future research may further examine such dimensions of student engagement in the implementation of *Instagram* in EFL writing as emotional engagement, cognitive engagement, behavioral engagement (Fredricks et al., 2003 and Fredricks et al., 2004), social engagement, reflective engagement, and goal-clarity engagement (Gebre et al., 2014). Studies on engagement dimensions will shed more light on the affordances of *Instagram* to engage EFL students in writing.

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# EFFECT OF LEARNER PROFICIENCY LEVELS ON METHODOLOGICAL EFFECTIVENESS: CASE OF STAD AND WEBQUEST (STADIBTM)

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## **Abstract**

This study set to investigate the critical importance of integrating Student Team Achievement Division (STAD) and *WebQuest*, STADIBTM for short, on developing the advanced-level argumentative writing skills of L2 English university students. The study employed a pre-post-test comparison of the experimental group (N=54) versus the control group (N=24). The data from the study have been systematically reanalysed to evaluate in detail how the initial learner proficiency levels correlated with improvements in the specific areas covered by the evaluation rubric that guided the collaborative writing activities of experimental group students.

**Keywords:** Proficiency; second language acquisition; Student Team Achievement Division (STAD); *WebQuest*

## **1. Introduction**

It is a standard practice in Second Language Acquisition (SLA) research to evaluate the effectiveness of methodological treatments on the basis of groups of learners, initially determined to be of equivalent proficiency level; the study participants were distributed into the experimental cohort that received the treatment and the control group that did not. Therefore, it is standard practice to measure learning outcomes after a reasonable period based on statistically significant differences in the mean scores of experimental versus control group results on a pre-test/post-test comparison. However, as was shown in Awada, Burston & Ghannage (2019), unless it considers the effect of initial learner proficiency levels, such a procedure can in fact misrepresent actual outcomes. In that study, a comparison of pre-post-test mean score results indicated that the experimental group made statistically significant progress whereas the control group results remained unchanged. Notwithstanding, when the outcomes



were reanalysed based on the division of students into initial low/middle/high proficiency levels, the end results were quite different. It turned out that the positive outcomes were restricted to students with the lowest initial proficiency levels, which was within the control as well as the experimental groups. These results highlighted the importance of going beyond average group results when evaluating the effectiveness of pedagogical methodologies and the need to take into consideration the influence of a range of learner proficiency levels, a largely neglected factor in SLA research design.

It is, thus, the intent of this follow-up study to analyse in greater depth how student interactions in collaborative writing activities in the original study correlated with initial low/middle/high proficiency levels and post-treatment outcomes. This will be done in two stages. Firstly, the structure and results of the original study will be summarized, and then the new data will be presented and analysed.

This study falls within the framework of the constructivism theory (Galloway, 2001) since scaffolding is at the heart of STADIBTM whereby the more skilled learner teaches the less skilled one. This study also falls within the framework of the cooperative learning theory (Johnson, 2013), as the Student Team Achievement Division (STAD) (Slavin, 1990), a cooperative learning structure, is one major component of STADIBTM.

The first backbone of STADIBTM is STAD, a structured cooperative learning method, which demands having one team working together and consisting of heterogenous members in terms of proficiency, activities, and objectives. STAD involves administering individual tests and comparing them to those of the cumulative team scores (Tarim & Akdeniz, 2008; Jolliffe, 2007). STAD demands having a minimum of four and a maximum of five students. This framework encourages individual accountability (Slavin, 1990), promotes learners' understanding and fosters the retrieval of information (Tarim, & Akdeniz, 2008). STAD has been utilized in improving learners' proficiency in mathematics (Rattanamamma, & Puncturebutr, 2016) and learners' grammar proficiency as well (Khan & Akhtar, 2017).

WebQuest (Dodge, 1998; Dodge, 2001) is the second component of STADIBTM. WebQuest is inquiry-based learning (IBL) model (Aditomo, Goodyear, Bliuc, & Ellis 2013; Ebadi & Rahimi, 2018; Arsanjani & Faghih, 2015). WebQuest-based instruction involves problem-solving tasks which facilitate the integration of the WebQuest into the classroom and allows learners to effectively employ the gathered information. It facilitates learning from Internet sources that yield in foreign language improvement and cultural exchange in a secure environment (Arsanjani & Faghih, 2015; Awada & Ghaith, 2015; Sysoyev & Evstigneev, 2014). Sox and Rubinstein-Ávila (2009) have asserted the importance of WebQuest for

utilizing authentic and real-life situations. At the same time, Awada and Diab (2018) have reported that WebQuest could improve debate instruction and increase intrinsic motivation towards conducting culturally based debate.

## **2. Literature review**

The theoretical framework of this study was composed of the following five theories. First, Vygotsky's theory of constructivism could explain how learning might occur while learners were actively engaged in meaningful construction of knowledge which is different from passive learning (Galloway, 2001). Second, Student Team Achievement Division (STAD), a cooperative learning structure promotes cooperative learning, improves learners' performance (Slavin, 1990) and enhances learner-centeredness (Johnson, 2013). Third, the learners of this study utilized the WebQuest which could facilitate the project-based learning (PBL) and the inquiry-based learning (Arsanjani & Faghih, 2015). The combination of STAD, a cooperative learning structure, and WebQuest, the Inquiry-Based Technological Model (IBTM), created the framework examined in this study referred to as STADIBTM.

### **2.1. STADIBTM**

This study falls within the framework of the constructivism theory (Galloway, 2001) since scaffolding is at the heart of STADIBTM whereby the more skilled learner teaches the less skilled one. This study also falls within the framework of the cooperative learning theory (Johnson, 2013), as the Student Team Achievement Division (STAD) (Slavin, 1990), a cooperative learning structure, is one major component of STADIBTM.

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problem-solving tasks which facilitate the integration of the WebQuest into the classroom and allows learners to effectively employ the gathered information. It facilitates learning from Internet sources that yield in foreign language improvement and cultural exchange in a secure environment (Arsanjani & Faghih, 2015; Awada & Ghaith, 2015; Sysoyev & Evstigneev, 2014). Sox and Rubinstein-Ávila (2009) have asserted the importance of WebQuest for utilizing authentic and real-life situations. At the same time, Awada and Diab (2018) have reported that WebQuest could improve debate instruction and increase intrinsic motivation towards conducting culturally based debate.

## **2.2. WebQuest inquiry-based instruction**

The WebQuest “is not only effective in teaching writing, but it is also effective to improve students’ ability in terms of other language skills” (Adanan, Adanan, & Herawan, 2020, p.78). WebQuest, a highly effective inquiry-based learning (IBL), has facilitated information processing. WebQuest facilitates students’ learning using Internet resources, promotes foreign language skills, and improves cultural awareness in anxiety-reduced environment (Aditomo, Goodyear, Bliuc, & Ellis, 2013; Ebadi & Rahimi, 2018). Furthermore, the WebQuest tasks simulated real-world situations in which each student took on a role related to intercultural communication (Awada & Ghaith, 2015; Sysoyev & Evstigneev, 2014).

In Ebadi & Rahimi’s study (2018) WebQuest-based instruction has improved the critical thinking and academic writing skills of EFL learners enrolled in an IELTS course at EFL institute in Iran. Furthermore, the reflection logs elicited from the learners have shown the learners’ positive experiences towards the effect of the instruction based on the WebQuest (Ebadi & Rahimi, 2018). WebQuest, one of the collaborative activities, has proved to be effective in promoting intercultural communication skills and in increasing motivation when learners are ensured affective, psychological, and cognitive environment (Sigmar, Hynes & Hill, 2012). The WebQuest model showed effectiveness in improving the debate skills, as well as the argumentative and critique writing skills of university learners (Awada and Diab, 2018).

## **2.3. Effectiveness of STAD Cooperative Learning Structure and STADIBTM**

A study conducted by Jahanbakhsh, AliAsgariZamani and Garman (2019) proved the effectiveness of STAD in improving the language proficiency of learners and indicated that STAD is “one of the most popular methods of CL, and has been used to teach different courses ...and has the potential to be used for different purposes” (p. 14). STAD proved to be effective in improving the individual and team tests scores (Tarim & Akdeniz, 2008; Jolliffe, 2007).

Furthermore, STAD has proved its effectiveness in promoting the grammar proficiency of learners (Khan & Akhtar,2017).

STADIBTM consists of STAD, cooperative learning structure, and WebQuest, an inquiry-based learning. The comparison of pre-/post-test mean score results of the experimental group that utilized STADIBTM and the control that employed the regular writing instruction indicated the effectiveness of STADIBTM in making statistically significant progress for the experimental group. Student interactions in collaborative and inquiry-based writing activities combining STAD and WebQuest could affect the low/middle/high proficiency levels of university writing learners (Awada, Burston & Ghannage, 2019). Furthermore, another study conducted by Trianasari and Yuniwati (2019) indicated that “STAD type in the learning process can improve student participation and learning achievement in English language course in the mechanical engineering department” (p. 91). The findings of several studies have shown that “many experts believe that WebQuest can be very useful to help the students in improving their knowledge in various areas of English language skills” (Adanan, Adanan, & Herawan, 2020, p.78).

As such, this study is one of the very few that have intended to contribute to the existing body of knowledge and to the plethora of literature pertaining to the interconnectedness among inquiry-based learning model (IBL), information and communication technology (ICT), cooperative learning approach (CL) and improvement of writing proficiency. In an attempt to bridge the existing gap in literature, this study has been the first to propose STADIBTM. This study aims to analyse in great depth how student interactions in collaborative writing activities could correlate with initial low/middle/high learners’ proficiency levels and post-treatment outcomes.

### **3. Methodology**

#### **3.1. The aim of the study**

This study aims at answering these research questions:

1. To what extent did participants in the experimental group discuss the following features covered in the STADIBTM evaluation rubric?
  - a) Creativity
  - b) Content/research
  - c) Citations
  - d) Main points

- e) Organization
- f) Mechanics
- 2. What is the effect of the initial low/middle/high English L2 language proficiency of the experimental group participants upon their advanced-level writing performance as it relates to the above rubric categories?
- 3. How does the writing performance of the initial low/middle/high proficiency level of control students compare to that of the experimental group regarding the above rubric categories?

To achieve the goal, the current study employed the pre-test and post-test experimental design in order investigate the critical importance of going beyond group averages and taking into consideration a representative range of initial L2 proficiency levels. This investigation took place while evaluating the effectiveness of a pedagogical treatment, a largely neglected factor in Second Language Acquisition research.

### **3.2. Participants and the research context**

This study utilized a convenience sample of 78 English as a foreign language (EFL) participants from six intact sections of EFL university students enrolled in advanced writing course. The native language of the participants was Arabic, and they were of different majors. The STADIBTM experimental group encompassed four sections including 54 participants who were randomly assigned, whereas the control group encompassed two sections including 24 participants. The age of the participants ranged from 18 to 23; 46% of the participants were male learners and 54% were female ones. The average TOEFLiBT entrance score of the experimental group was 81.43, while it was 81.52 for the control group. As such, there was no statistically significant difference between the experimental and the control TOEFLiBT entrance scores. A TOEFLiBT score of 81.5 corresponds to B2+ on the Common European Framework of Reference for Languages scale (Papageorgiou et al., 2015). That is, the score of 81.5 is equivalent to advanced-mid+ on the American Council on the Teaching of Foreign Languages scale (ACTFL.ORG, 2015). The actual range of TEOFLiBT scores for the participants was between 80-86. The pre-post control experimental design was used to collect the quantitative data. Descriptive statistics including the means and standard deviations were utilized to address the study questions.

### 3.3. Design and procedure

The STAD teams were formed in accordance with the learners' prior knowledge, pre-test achievement scores and the teachers' overall evaluation. As such, the STAD groups were heterogeneous consisting of low, middle, and high achievers. STAD was applied in three steps: First, the experimental teachers delivered whole class instruction; second, the participants received two worksheets to answer in their respective teams in a way that each pair or triad in every team works on every single worksheet. The pairs in every team exchanged worksheets to correct the work of each other and the teachers gave the answer key to all teams to check answers. Third, a test was administered to report achievement (Tarim, & Akdeniz, 2008).

In alignment with the above three steps, the participants in the experimental group sat for a pre-test consisting of an argumentative essay on the effectiveness of intercultural communication. Participants' essays were between 1,250-1,800 words and were written in a three-hour session during which access to supplementary materials including dictionaries and notes was not allowed. The scores of the pre-test were used to identify the three categories: low, middle, and high; the students whose pre-test scores were between 45-68% were identified as low, 69-77% as middle, and over 77% as high achievers. To equalize the sizes of the members' abilities, the cut-off points for the STAD membership were mediated using the teachers' judgement. The participants were then assigned to heterogeneous teams including four participants in twelve groups and three participants in the remaining two.

The whole class approach was utilized to give the instruction for four weeks. The given instruction consisted of lectures on argumentative writing given at a rate of 150 minutes per week. The participants in both groups carried out the tasks using *Writing and Reading across the Curriculum* (12<sup>th</sup> ed.) for the remaining eight weeks of the semester. Proficient C2 was used as the proficiency required level to effectively carry out the assigned tasks (Council of Europe, 2001, p 27). The Superior level was set for the scores higher than that of Proficient C2 (ACTFL, 2017, p 4). Participants were asked to identify the logical fallacies in a selection and to analyse and synthesize refutations, evidence, means of credibility and rebuttals. Furthermore, they were engaged in debates prior to the argumentative writing exercises and the post-test. All the participants in both experimental and control groups were given two worksheets to answer before the teachers gave them an answer sheet to correct their worksheets for themselves. The worksheets involved drills related to the essay's purpose, organization, coherence, means of credibility, thesis statement, planning, transitional signals, and topic sentences (see Appendix A). The post-test was argumentative essay on the effectiveness of Human Rights Education,

which was between 1,200 and 1,800 words and undertaken in a 150-minute session under the same conditions of the pre-test.

WebQuest was the second component of the treatment. It was created to utilize students' time efficiently and to improve students' analysis, synthesis, problem-solving and evaluation skills (Dodge, 2001). The WebQuest activities required learners to utilize web resources, which were selected ahead of time by the teachers. WebQuests encouraged scaffolding during the learning process since each activity included six sections that helped organize learners' investigations under six main categories: introduction intended to attract the attention and to provide catchy statements and background knowledge, task intended to give the required assignment, resources intended to provide learners with whatever PowerPoint presentations, videos, links or websites, process intended to give the steps to fulfil a task (Iskeceli-Tunc & Oner, 2016), evaluation intended to present the rubric, or the checklist needed to evaluate the task, and conclusion intended to allow learners to reflection on the fulfilled task (Macgregor & McGill, 2005).

Accordingly, the WebQuest created to serve the purpose of this study included an introduction section consisting of articles on Human Rights Education (HRE) integration into school subjects. The task section required students to analyse the HRE articles and to focus on the analysis of claims, counterclaims, support, evidence, means of credibility and rebuttals along with a call to take measures. The process section included the steps needed to carry out the analysis. More importantly, students were asked to freely share their own made videos and the resources they found pertinent to the discussions, debates, and argumentative writing process. Students were also encouraged to post recommendations on the resources they use from WebQuest. The participants were also asked to use the posted rubrics to assess the resources and their writings. The rubric criteria were focused on assessing the content, organization, structure, citations, and creativity.

The instruction stage lasted for the first weeks and was the same for both experimental and control groups whereas the instruction given in the remaining eight weeks differed in accordance with the respective group; the experimental group received the content using STADIBTM while the control group received the regular writing instruction whereby students worked mainly individually and not in groups and did not employ the WebQuest. As such, the STADIBTM instruction was given to the experimental group participants who engaged in their STAD teams to write their thesis statements including claims on HRE integration into school subjects, to use means of support, and make citations. All the experimental participants were asked to outline their essays and draft their essay body, introduction, and conclusion in groups.

Furthermore, students were engaged as well in revising and editing their essays. The STAD members exchanged and discussed the worksheet answers and eventually they compared their answers to the answer keys given by the teachers.

In contrast, following the initial course lectures, the control group participants continued to receive argumentative writing instruction for eight weeks through lecturing and whole class teacher-student discussion. The instruction given to the control group included guidelines on how to develop affirmative and negative positions, how to draft an outline of argumentative writing, provide affirmative statements, draft cross examination, and locate and identify sources needed for their writings. The control group participants completed the same worksheets as the experimental group. However, unlike the STADIBTM students, the control group students were responsible for finding their own online complementary materials. Whereas the experimental group students always worked collaboratively, most control group students worked individually even though they were free to work in pairs or small groups. Unlike the experimental group which received peer and instructor feedback, the control group received only instructor feedback.

### **3.4. Data collection tools and procedures**

A pre-test (see Appendix C) and a post-test (see Appendix D) along with a rubric were the three instruments used to collect data to address the questions raised by this study. The control and the experimental groups undertook the pre- and post-test essays that were scored numerically by utilizing one rubric (see Appendix B). Reliability of correction was maintained by having all essays corrected by two teachers. A third teacher intervened in the case of a significant discrepancy (+/- 5-7 points) to attain a consensus. The marking was completely blind to avoid any bias towards any of the two groups. ANCOVA statistics were carried out to obtain quantitative data including the means and standard deviations of the scores of the pre and post-tests.

In the original study, a quantitative ANCOVA data analysis was conducted in two stages. In the first step, the means and standard deviations of the whole experimental group were compared with those of the whole control on the pre-treatment and post-treatment essays. The purpose of this analysis was twofold. Firstly, it provided a baseline against which progress could be measured and secondly it played a major role in demonstrating the equivalence of L2 English language proficiency between the experimental and control groups.

In the second stage, the analysis compared pre-/post-treatment scores within the experimental and control groups relative to the low/middle/high proficiency groupings of the



participants. The purpose of this analysis was to determine the extent to which the effectiveness of the STADIBTM methodology was affected by the initial L2 English proficiency level of students.

The quantitative ANCOVA results of the pre-treatment essay for the experimental and control groups showed a higher mean for the latter (68.33333 –SD 11.23143) compared to the former (64.83333 –SD 11.42449), however, this difference was not statistically significant ( $p > 0.05$ ), as shown in Table 1. This, in conjunction with the students' TEFLiBT scores, confirmed the initial equivalence of the experimental and control groups.

Table 1. Paired sample test

		Mean	Std. Deviation	Std. Error Mean	Sig. (2-tailed)
Pair 1	Pretest cont_L – Pretest exp_L	1.33333	13.95230	5.69600	.824
Pair 2	Pretest cont_M Pretest exp_M	1.53846	2.96129	.82131	.086
Pair 3	Pretest cont_H Pretest exp_H	-.60000-	4.97996	2.22711	.801

Table 2 shows the mean scores, standard deviations, and the statistical significance ( $p < 0.05$ ) of the difference between the mean scores of the pre-/post-test between the experimental and control groups. As can be seen, whereas the global post-test results of the experimental group significantly improved by almost 10 points (64.8333 –SD 11.42449 / 74.5185 –SD 11.88743), those of the control group remained essentially unchanged (68.3333 –SD 11.23143 / 68.9583 –SD 13.26807).

Table 2. Paired samples statistics

Pair 1	pretestexp_total	64.8333	54	11.42449	1.55468	.000
	posttestexp_total	74.5185	54	11.88743	1.61767	
Pair 2	pretestcont_total	68.3333	24	11.23143	2.29261	.859
	posttestcont_total	68.9583	24	13.26807	2.70833	

Table 3 shows the mean scores, standard deviation and the statistical significance ( $p < 0.05$ ) of the difference between the mean scores for each of the low/middle/high groups on the pre-/post-treatment essays for the experimental and control groups.

Table 3. Paired samples statistics

		Mean	N	Std. Deviation	Std. Error Mean	p Value
Pair 1	pretestexp_L	53.5263	19	10.02424	2.29972	.000
	posttestexp_L	72.5789	19	14.45420	3.31602	
Pair 2	pretestexpM	70.4545	22	.91168	.19437	.230
	posttestexp_M	73.5909	22	11.82676	2.52147	
Pair 3	pretestexp_H	79.7143	7	4.57217	1.72812	.267
	posttestexp_H	81.7143	7	3.68394	1.39240	
Pair 4	pretestcont_L	51.8333	6	9.76559	3.98678	.002
	posttestcont_L	71.0000	6	6.13188	2.50333	
Pair 5	pretestcont_M	72.0000	13	2.61406	.72501	.250
	posttestcont_M	66.2308	13	17.22960	4.77863	
Pair 6	pretestcont_H	78.6000	5	1.34164	.60000	.071
	posttestcont_H	73.6000	5	4.15933	1.86011	

Among the experimental group participants, the post-test scores of the lower ability experimental group students (N=19) increased significantly by over 19 points (SD 14.45420). On the other hand, there were no significant gains among the middle (N=22) or high (N=7) ability students. In fact, what little difference there was correlated inversely with ability level, +3.1364 (SD 11.82676) for middle ability and + 2.0000 (SD 3.68394) for high ability. Likewise, within the control group, while the scores of middle ability students (N=13) decreased by 5.7692 (SD 17.22960) and those with higher ability (N=5) increased by +5.0000 (SD 4.15933), neither of these changes were statistically significant. On the other hand, for low ability students (N=6) there was a significant difference of over 19 points (SD 4.15933) between pre-/post-test results. Lastly, comparing the pre-/post-test results of the lower ability students in the experimental and control groups (See Table 4), there was no significant difference. Neither was there any significant difference between the middle ability learners in the experimental and control groups nor between the high ability learners in the two groups.

Table 4. Paired samples statistics

		Mean	N	Std. Deviation	Std. Error Mean	p Value
Pair 1	exp_diff_L	28.1667	6	15.71517	6.41569	.289
	cont_diff_L	19.1667	6	7.78246	3.17718	
Pair 2	exp_diff_M	10.2308	13	7.28187	2.01963	.862
	cont_diff_M	11.0000	13	14.17745	3.93212	
Pair 3	exp_diff_H	3.6000	5	4.33590	1.93907	.435
	cont_diff_H	5.8000	5	3.19374	1.42829	

As was demonstrated in the original STADIBTM study, when evaluating the effectiveness of a pedagogical treatment based on pre-test/post-test results, it is critically important to go beyond group averages and take into consideration a representative range of initial L2 proficiency levels. Because of the way STADIBTM activities were organized, it is in fact possible to obtain a much fine-grained analysis of learning outcomes relative to student proficiency levels. In the STADIBTM study, all participants were made aware, and had a copy of, the evaluation rubric used in the assessment of their essays. As part of the WebQuest procedures, the students in the experimental group applied the rubric not only to their evaluation of the resources they read but also to the preliminary drafts they themselves collaboratively wrote. Unlike the experimental group participants, it was left for those in the control group to use the rubric as they saw fit. While in the original STADIBTM study the rubric formed the basis of the evaluation of the pre-/post treatment essays, it was used only to provide a global assessment of writing performance in terms of the aggregate scores that derived from its various categories. However, since the STADIBTM participants systematically used the rubric to guide their writing, the effect of this approach can be more informatively assessed category by category in the pre-/post-treatment essays, and this relative to the initial low/middle/high proficiency level of the experimental and control group learners.

## 4. Findings and discussion

### 4.1. Findings on research questions 1 and 2

Addressing questions 1 and 2 required summarizing by low/middle/high proficiency level the interactive discussions of students concerning the aspects of the rubric. When dealing with the question of discussion topics, it was necessary to go through the transcripts of the student

interactions in order to determine firstly the overall percentage that deals explicitly with the evaluation metrics, then to see if there was any correlation between the three student proficiency levels and participation in those rubric-related discussions. Determining the effect of initial proficiency level upon learning outcomes required an analysis of the pre-treatment and post-treatment essays of the six rubric categories for each of the low/middle/high proficiency levels. This needed to be done internally to the experimental and control groups. It was also necessary to compare the results of the experimental and control groups, low/middle/high level by level.

### **1. Extent to which participants in the experimental group discussed the STADIBTM evaluation rubric**

Analysis of the student discussions indicated that the middle-level students were raising more questions than the lower-level students and that the higher-level students were answering them. That is, most of the discussion was between middle and high-level students, yet discussion among low, middle and high-level students did also take place. Secondly, the analysis showed that a breakdown of the discussions by specific rubric category was possible. Specifically, 60% of the student communications referred to the rubric, of which 25% dealt with content, 15% creativity, 15% mechanics, 15% main points, 10% citations, 20% organization. Furthermore, the findings showed that there was a pattern to the interactions related to proficiency level (see Table 5). The low-level students concentrated on content, mechanics and main points, middle-level ones on creativity and content, high-level students on organization and citations. Thirdly, the findings indicated that the collaborative writing that was produced aligned to a significant extent with the discussion of the rubric categories which was reflected in actual changes made to drafts. Thus, 75% of changes relating to creativity and content were made by middle-level students and 25% of the content changes were made by low-level students. 55%, 40% and 5% of creativity changes were made by high, middle, and low-level students, respectively. The significant citation and organization changes were made by high level students.

Table 5. Experimental and control group post-test results

Proficiency level	High		Middle		Low	
	Con Post-test	Exp Post-test	Con Post-test	Exp Post-test	Con Post-test	Exp Post-test
<b>Rubric Aspects</b>						

Creativity	45%	40%	35%	42%	20%	18%
Content/research	40%	35%	40%	40%	20%	25%
Citations	40%	55%	35%	30%	25%	10%
Main points	40%	45%	35%	35%	25%	20%
Organization	40%	50%	35%	35%	25%	15%
Mechanics	45%	45%	35%	30%	20%	25,00%

## 2. Experimental group pre-/post-test results

For the second research question, the results of the pre-treatment and post-treatment experimental group essays were compared by rubric category for each of the three proficiency levels. As can be seen in Table 6 the level of improvement was inversely proportional to initial proficiency level for all rubric categories. The lowest level students improved by 5% to 10% in all categories. Except for a slight 2% increase in creativity, middle-level students either made no progress or retrograded by 5%. High-level students improved the least, making no progress in citations and retrograding by 5% -10% in everything else. It must be kept in mind, however, that the results of both the middle and high-level students were higher from the beginning and remained so after the treatment.

Table 6. Experimental group pre-/post-test results

Proficiency level	High		Middle			Low			
	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	
<b>Rubric Aspects</b>									
Creativity	50%	40%	-10%	40%	42%	+2%	10%	18%	+8%
Content/research	45%	35%	-10%	40%	40%	0%	15%	25%	+10%
Citations	55%	55%	0%	35%	30%	-5%	5%	10%	+5%
Main points	55%	45%	-10%	35%	35%	0%	10%	20%	+10%
Organization	55%	50%	-5%	35%	35%	0%	10%	15%	+5%
Mechanics	50%	45%	-5%	35%	30%	-5%	15%	25%	10.00%

## 3. Control group pre-/post-test results

For the second research question, the researchers needed to compare the results of the control pre-treatment and post-treatment essays by rubric category for each of the three proficiency levels. As can be seen in Table 7, except for mechanics which remained unchanged, the control high-level students regressed in all categories. Similarly, the control middle-level students made no progress in half of the categories and retrogressed in the other half. On the other hand, the control low level students showed significant progress of between 5% and 15% across the board. The difficulty level of the topic and the

fact that the grades of the high-level students were higher at the beginning could explain the findings, as shown in Tables 7 & 8

Table 7. Control group pre-/post-test results

Proficiency level	High		Middle			Low			
	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	
<b>Rubric Aspects</b>									
Creativity	50%	45%	-5%	40%	35%	-5%	10%	20%	+10%
Content/research	45%	40%	-5%	40%	40%	0%	15%	20%	+5%
Citations	50%	40%	-10%	35%	35%	0%	15%	25%	+10%
Main points	50%	40%	-10%	35%	35%	0%	15%	25%	+10%
Organization	50%	40%	-10%	40%	35%	-5%	10%	25%	+15%
Mechanics	45%	45%	0%	40%	35%	-5%	15%	20%	+5%

**4.2. Findings on question 3:** How does the writing performance of the initial low/middle/high proficiency level of control students compare to that of the experimental group regarding the above rubric categories?

The comparison between the writing performance of the initial low/middle/high proficiency level of control students and those of the experimental group regarding the above rubric categories does not show significant differences.

40%, 35%, 55%, 45%, 50%, and 45% were achieved in terms of creativity, content, citations, main points, organization, and mechanics, respectively. The control high level students scored 45%, 40%, 40%, 40%, 40% and 45% on creativity, content, citations, main points, organization, and mechanics, respectively.

The experimental middle level students scored 42%, 40%, 30%, 35%, 35%, and 30% on creativity, content, citations, main points, organization, and mechanics, respectively. The control middle level students scored 35%, 40%, 35%, 35%, 35% and 35% on creativity, content, citations, main points, organization, and mechanics, respectively.

The experimental low-level students scored 18%, 25%, 10%, 20%, 15% and 25% on creativity, content, citations, main points, organization, and mechanics, respectively. The control low level students scored 20%, 20%, 25%, 25%, 25% and 20% on creativity, content, citations, main points, organization, and mechanics, respectively.

Table 8. Experimental and control initial low/middle/high proficiency level of experimental and control students

Proficiency level	High			Middle			Low		
	Exp	Con		Exp	Con	%	Exp	Con	%
<b>Rubric Aspects</b>									
Creativity	40%	40%	0%	40%	42%	%	5%	10%	%
Content/research	45%	45%	0%	40%	35%	%	15%	15%	0%
Citations	40%	45%	%	35%	35%	0%	25%	15%	%
Main points	40%	45%	%	35%	35%	0%	25%	15%	%
Organization	55%	50%	%	35%	35%	0%	10%	10%	%
Mechanics	55%	55%	0%	30%	35%	%	15%	15%	%

### 4.3. Discussion and implications

As was demonstrated in the original STADIBTM study, when evaluating the effectiveness of a pedagogical treatment based on pre-test/post-test results, it is critically important go beyond group averages and take into consideration a representative range of initial L2 proficiency levels. Because of the way STADIBTM activities were organized, it is in fact possible to obtain a much finer-grained analysis of learning outcomes relative to student proficiency levels. In the STADIBTM study, all participants were made aware, and had a copy of, the evaluation rubric used in the assessment of their essays. As part of the WebQuest procedures, students in the experimental group applied the rubric not only in their evaluation of the resources they read but also in relation to the preliminary drafts they themselves collaboratively wrote. Unlike the experimental group participants, it was left for those in the control group to use the rubric as they saw fit. While in the original STADIBTM study the rubric formed the basis of the evaluation of the pre-/post treatment essays, it was used only to provide a global assessment of writing performance in terms of the aggregate scores that derived from its various categories. However, since STADIBTM participants systematically used the rubric to guide their writing, the effect of this approach can be more informatively assessed category by category in the pre-/post-treatment essays, and this relative to the initial low/middle/high proficiency level of the experimental and control group learners.

In the original study, a quantitative ANCOVA data analysis was conducted in two stages. In the first step, the means and standard deviations of the whole experimental group were compared with those of the whole control on the pre-treatment and post-treatment essays. The purpose of this analysis was twofold. Firstly, it provided a baseline against which progress could be measured and secondly it played a major role in demonstrating the equivalence of L2 English language proficiency between the experimental and control groups. In the second stage, the analysis compared pre-/post-treatment scores within the experimental and control groups relative to the low/middle/high proficiency groupings of the participants. The purpose of this analysis was to determine the extent to which the effectiveness of the STADIBTM methodology was affected by the initial L2 English proficiency level of students.

Findings indicated that the middle-level students were raising more questions than the lower-level students and the higher-level students were answering them. That is, most of the discussion was between middle and high-level students, yet there was a significant discussion among low, middle, and high levelled students. In fact, there was a discernible pattern related to proficiency level. Secondly, the study findings showed that a breakdown of the discussions by specific category could be provided. For example, 60% of the student communications referred to the rubric, of which 25% dealt with content, 15% creativity, 15% mechanics, 15% main points, 10% citations, 20% organization. Furthermore, the findings asserted that there was a pattern to the interactions related to proficiency level; for example, the low-level students concentrated on mechanics and main points, middle-level ones on structure and organization and high-level students on content and citations. Thirdly, the findings indicated that the collaborative writing that was produced aligned to a significant extent with the discussion of the rubric categories which was reflected in the actual changes made to drafts. As such, 75% of the changes relating to mechanics were made by mid-level students and 25% of the content changes were made by low-level students, 55%, 40% and 5% of creativity changes were made by high, mid and low-level students respectively. 40%, 35% and 25% of the citation changes were made by mid, high, and levelled students, respectively.

Low-level students improved by 5% on creativity, 10% on content, 10% on citations, 15% on main points, 5% on organization, and 5% on mechanics. As such, the low-level students showed slight improvement in creativity, mechanics, and organization. The middle-level students improved by 5% on creativity, 5% on content, 10% on citations, 10% on main points, 5% on organization, and 10% on mechanics. As such, the middle-level students showed slight improvement in creativity, content, mechanics, and organization. The high-level students retrogressed by 10% on creativity, 15% on content, 15% on citations, 15% on main points, 10% on organization, and 15% on mechanics. As such, the high-level students did not show improvement in comparison with the low and middle-level students. However, the low and middle-level students showed improvement. Yet, the difficulty level of the topic and the fact that the grades of the high-level students were high from the beginning and remained so after the treatment could explain the findings. There were correlations between what was discussed/practiced during the STADIBTM student interactions and the post-test results. In fact, what was discussed and practiced had a flow-on effect in the post-treatment essay.

The experimental group with low-level students showed no improvement on creativity, citations and mechanics. They retrogressed by 5% on content, and retrogressed by 5% on main points, and retrogressed by 5% on organization. The middle-level students showed no



improvement on citations and mechanics. They improved by 5% on creativity, 5% on content, any 5% on organization. However, they retrogressed by 5% on main points. As such, the middle-level students showed improvement in creativity, content, mechanics, and organization. The high-level students retrogressed by 10% on creativity, improved by 5% on content, 15% on citations, 15% on main points, 10% on organization, and 15% on mechanics. As such, unlike the low and middle-level students, the high-level students did not show improvement on creativity. Yet, the difficulty level of the topic again and the fact that the grades of the high-level students were high from the beginning and remained so after the treatment could explain the findings pertinent to the high-level students. Yet, the low-level students of the control group did not show improvement, which indicated a stronger correlation between the effectiveness of the STADIBTM and the improvement the experimental low-level students showed.

The findings of the study aligned with those of Tarim and Akdeniz (2008) and Jolliffe (2007) that indicated the effectiveness of STAD as a cooperative learning method in which each team member cooperates in ensuring that partners have mastered assigned objectives based on individual tests and team scores. The study results corroborate those of Khan and Akhtar (2017) that demonstrated the effectiveness of STAD in improving the grammar and mechanics proficiency of learners. Furthermore, there is an alignment between the findings of the study and those of Aditomo, Goodyear, Bliuc, and Ellis (2013), as well as Ebadi and Rahimi (2018), which showed that WebQuest is a well-established model for inquiry-based learning (IBL) which encouraged students to focus on how to find and employ information. Furthermore, the study findings corroborate those of Awada and Ghaith (2015) and Sysoyev and Evstigneev (2014), which indicated that the WebQuest tasks simulated real-world situations in which each student took on a particular role related to intercultural communication.

In the same vein, the study findings corroborate those of Ware (2013) and Shuter (2012) that indicated that there is a positive interaction between intercultural communication skills and collaborative technology-based activities such as the WebQuest. Furthermore, the findings aligned with those of Sigmar, Hynes and Hill (2012) that asserted that learners could enhance their intercultural communication skills and increase their motivation should they are ensured affective, psychological, and cognitive environment. More importantly, the findings of this study corroborate with those of Awada and Diab (2018) that indicated the significance of the WebQuest media in improving the debate skills of learning and possibly enhancing their argumentative and critique writing skills.

## 5. Conclusion

This study was a sequel to that presented in Awada, Burston and Ghannage (2019), which investigated the effectiveness of integrating Student Team Achievement Division (STAD) and WebQuest, STADIBTM for short, on developing the advanced-level argumentative writing skills of EFL university students. Findings indicated that most of the discussion was between middle and high-level students, yet there was a significant discussion among low, middle, and high-level students. In fact, there was a discernible pattern related to proficiency level. The middle-level students showed slight improvement in creativity, content, mechanics, and organization. The high-level students did not show improvement in comparison with the low and middle-level students. Secondly, the study findings showed that a breakdown of the discussions by specific category could be provided.

This study also yielded important pedagogical implications. First, it is more vital for students to work in heterogenous groups and not individually to fulfil a writing task in general and argumentative writing requirements. Second, it is imperative that writing teachers utilize peer and teacher feedback to improve low-level students' writing proficiency. There is also a positive interaction between intercultural communication skills and collaborative technologies such as the WebQuest. Future research should be conducted to investigate the impact of using STADIBTM on learners' motivation and to examine whether there is a correlation between using STADIBTM, improving learners' writing proficiency and increasing motivation.

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## Appendices

### Appendix A: Rubric

Scoring Rubric for Short, Research-based Position Paper

Undergraduate Cognitive Psychology, Anne L. Fay, Carnegie Mellon University.

<https://www.cmu.edu/teaching/resources/Teaching/CourseDesign/Assessment-Grading/Rubrics/PsychologyPaperRubric.doc>

### Appendix B: Argumentative Writing Material

Adapted from: Sinnott-Armstrong, W., & Fogelin, R. J. (2014). *Cengage Advantage Books: Understanding arguments: An introduction to informal logic*. Cengage Learning.

[http://zu.edu.jo/UploadFile/Library/E\\_Books/Files/LibraryFile\\_17113\\_11.pdf](http://zu.edu.jo/UploadFile/Library/E_Books/Files/LibraryFile_17113_11.pdf)

### Appendix C: Pretest

Students were asked to argue with or against the integration of Human Rights Education into all school subjects. Students were instructed to provide an introduction, summary of utilized references concessions, refutations, support paragraphs, call to action and a conclusion.

### Appendix D: Posttest

Students were asked to argue with or against the integration of Human Rights Education into all university courses. Students were instructed to provide an introduction, summary of utilized references concessions, refutations, support paragraphs, call to action and a conclusion.

# EDUCATIONAL MINI-VIDEOS AS TEACHING AND LEARNING TOOLS FOR IMPROVING ORAL COMPETENCE IN EFL/ESL UNIVERSITY STUDENTS

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## Abstract

The use of digital video has gained a prominent position in enhancing not only aural reception but also active production skills in the language classroom. The present paper seeks to share a set of three lessons plans based on the use of educational mini-videos that enhance the development of students' oral skills through an active learning methodology. Though implemented as a part of the ESP undergraduate course for engineering students at the Universidad Politécnica de Madrid (UPM), these lesson plans can be easily adapted to other ESP/EFL/ESL situations. We aim at encouraging language teachers to use innovative ways to integrate educational videos into their teaching practice around the globe.

**Keywords:** educational mini-videos; oral competence; ESP/EFL/ESL; Higher Education

## 1. Introduction

Today's global and plurilingual society demands a new profile of an engineer capable of collaborating in international and interdisciplinary working groups using English as a lingua franca. Future engineers need to acquire communication skills, such as speaking in public adjusting the discourse to the audience and the purpose of the interaction, be it strictly informative or promotional. These skills are crucial not only for students' academic and professional progress but also for building interpersonal relationships and fostering self-esteem in a world of work subject to permanently evolving demands.

Higher education institutions with a commitment to internationalization should focus on developing communication skills. However, educational programmes frequently relegate these skills to the second place (Mercer, Ahmed, & Warwick, 2014). Specifically, the Universidad Politécnica de Madrid (UPM) offers *English for Professional and Academic Communication* as a compulsory subject on almost all of the university degree courses. However, the shortage of specific resources for developing oral communication skills in the field of technical English is evident and the classroom time allotted for speaking activities hardly suits the students' needs

(Bobkina, Domínguez Romero & Gómez-Ortiz, 2019). Besides, traditional lecture formats continue dominating the class even though the students often show a decreased tolerance for lecture-based classes, particularly at a time when the Internet facilitates flexible access to audio and video resources on almost any subject (Butt, 2014).

Against this backdrop, the implementation of alternative pedagogies based on learning information and communication tools is a pressing challenge in higher education institutions like the Universidad Politécnica de Madrid (UPM) (Bobkina & Domínguez Romero, 2018; Matsushita, 2018; Prensky, 2012; Scott, 2015). On this basis, the present paper aims at sharing a set of three lesson plans based on an active learning methodology aimed at enhancing our ESP university students' oral skills through the use of educational mini-videos. Implemented successfully in the UPM context, these lesson plans have the potential of being adapted to other ESP/EFL/ESL situations, as a support for language teachers looking for new ways to integrate educational videos into their teaching practice across the world.

## **2. Educational mini-videos. Interoperable and reusable learning objects**

Since their inception in the 1980s, videos have been recognized as valuable educational tools because of their multiple advantages. Most of the methodologies of that time encouraged teachers to incorporate video materials into their language courses (Allan, 1985; Cooper, Lavery & Rinvoluceri, 1991; Lonergan, 1984). Nevertheless, videos did not gain a prominent position until the 21<sup>st</sup> century, with a shift from its passive use, aimed at enhancing oral reception skills, to a more effective use focused on the acquisition of oracy skills (Dal, 2010; Domínguez Romero & Bobkina, 2017; Goldstein & Driver, 2015). This shift has led to a complete redesign of the language courses "...changing instructor practices and adapting organizational policies and allocation of time and space to align with more personalized instruction" (Means, Peters, & Zheng, 2014, p. 48).

The pedagogical potential of videos is closely related to the design of educational videos that are subject to the philosophy of Reusable Learning Objects (RLOs) because the combination of modern audiovisual technologies and ICT enables the production of excellent pedagogical materials that satisfy the characteristics of RLO. Introduced in 1992 by Wayne Hodgins, RLOs have been a focus of debate for the educational community ever since, omnipresent in almost any teaching proposal or initiative regarding e- or b-learning educational practices (Casar & Herradón, 2011). Defined as "digital resources that can be reused to facilitate learning" (Wiley, 2000), these learning resources include images, videos, audios and web applications to promote different learning experiences.

Within educational videos, educational mini-videos are short videos accompanied by user guides assuring learners' autonomous practice. In this context, educational mini-videos can be described as educational units and learning objects that stand out for being: 1) reusable, given the fact that they can be used in different contexts; 2) interoperable, as they can serve different purposes, either as independent units or as part of a longer course (Borrás Gené (2012); 3) accessible because their digital format facilitates content storage and recovery (Barritt & Alderman, 2004; Olgren & Ploetz, 2007). More specifically, they are educational resources in an audiovisual format that function as short courses that guide on a specific topic or problem with a duration of between 5 and 10 minutes (Pérez Navío, Rodríguez Moreno & García Carmona, 2015; Sande Mayo, 2014; Úbeda Mansilla & Gómez-Ortiz, 2018).

Some of the essential benefits of educational mini-videos are as follows:

1. They consist of audiovisual material that students are already familiar with, as their format is similar to the one used on YouTube (Moreno & Mayer, 2007);
2. they condense the information to be transmitted in a few minutes, facilitating the assimilation of content in complex situations;
3. they are usually integrated into eLearning platforms, thereby facilitating the distribution of content in streaming mode from any mobile device at any time;
4. they promote the autonomous management of learning since contents are stored in an open repository in the virtual campus.

These benefits render educational mini-videos a solid point of reference for those teaching proposals or initiatives involving active learning methodologies based on the information and communications technologies.

On this basis, three lesson plans are shared in the lines following to illustrate the use of educational mini-videos for developing oral skills in ESP courses. Designed as a single block, they are targeted to university ESP students with post-intermediate/advanced level of English who are interested in developing their public relations and marketing skills. The ultimate aim of the three classes is that students should be able to identify a challenge associated with the field of computer engineering and present a solution to the problem in the form of an elevator pitch.

### **3. Lesson plans – Building up digital oral skills: the elevator pitch**

#### **LESSON 1**

**Level:** Post-Intermediate, Advanced



**Time:** 90 mins (could be more if teacher and students find the activity beneficial for the teaching-learning process)

**Aims:**

- To become familiar with elevator pitches
- To be able to develop a draft for an elevator pitch text

**Resources/materials:**

A room with a computer, a digital whiteboard, or a film projector, and speakers, Internet access

**Possible problems:**

Slow Internet connection; no Internet access; server failure

**Procedure:**

1. **Pre-stage:**

Students will learn about the aims of the lesson: to become familiar with elevator pitches, thereby to develop a draft for an elevator pitch text.

2. **While-stage:**

a) Students are familiarized with elevator pitches by watching some sample videos:

- *Apparcar*: <https://www.youtube.com/watch?v=GsnVWjjkpE4>;
- *Wayook*: <https://www.youtube.com/watch?v=r0t9R6pWyXw>;
- *What is fiction express?* <https://www.youtube.com/watch?v=RM8u92Tv5EU>

b) The teacher introduces the structure of elevator pitches using the Elevator Pitch Template (Figure 1). Then, the students watch a 2-minute elevator pitch video delivered by Gavin Belson at the *Tech Crunch Disrupt* ([https://www.youtube.com/watch?v=8pplat\\_Mhe0](https://www.youtube.com/watch?v=8pplat_Mhe0)), a leading technology conference for debuting revolutionary startups and tech industry's key innovations.

Using the template in Figure 1, students identify the main elements of Belson's elevator pitch and summarize its main idea in a short text (about 50-70 words).

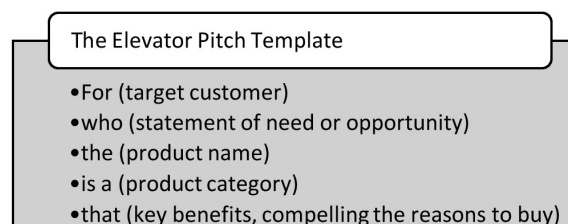


Figure 1. The Elevator Pitch Template

Source: Adapted from <https://wall-skills.com/2015/elevator-pitch-template/>

- c) The students work in groups of 3-4 to identify a challenge associated with the field of computer engineering and come up with a solution to the problem to be presented at the *Tech Crunch Disrupt*. Then, each member of the group creates an individual version of a short written text for the elevator pitch to be shared and discussed. Finally, the team members work together on a joint version of the document.

**3. Post-stage:**

In groups, students are asked to summarize the new knowledge acquired in the lesson.

## LESSON 2

**Level:** Post-Intermediate, Advanced

**Time:** 90 mins (could be more if teacher and students find the activity beneficial for the teaching-learning process)

**Aims:**

1. To become familiar with the skills necessary for developing effective digital speeches
2. To learn how to develop a one-minute elevator pitch
3. To launch an elevator pitch on the social networks using emojis

**Resources/materials:**

A room with a computer, a digital whiteboard or a film projector, and speakers, Internet access, a personal computer per group of students

**Possible problems:**

Slow Internet connection; no Internet access; server failure

**Procedure:**

1) **Pre-stage:**

The teacher introduces the aim of the class: to create a one-minute elevator pitch and to launch it on the social networks using emojis.

2) **While-stage:**

Students are familiarized with the main skills necessary for developing effective digital speeches, such as building and performing communications skills, and creating digital content skills (Figure 2):

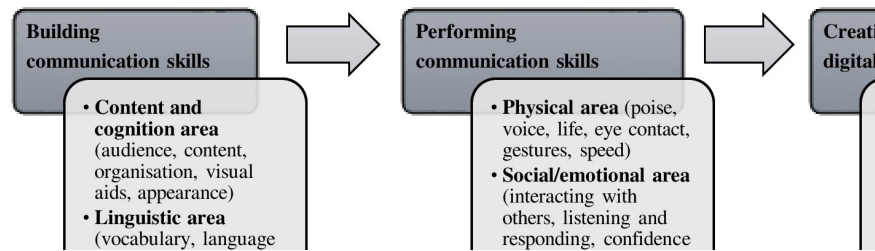


Figure 2. Criteria for developing effective digital speeches.

The teacher presents some authentic examples of elevator pitches delivered by UPM students:

- *Pass and Share*: <https://www.youtube.com/watch?v=BrxTa432a44>
- *U-card*: <https://www.youtube.com/watch?v=CgIJ4ZohoFI>

Students watch and evaluate the videos in groups, using the **Elevator Pitch Video Assessment Sheet** (Attachment 1). The whole class analyzes the results.

### 3) Post-stage:

Students launch their pitches using a short advertising text and emojis (see Figure 3). They learn about some tips to take into consideration when translating texts into emojis (<http://clearwordstranslations.com/translating-emojis-top-tips/>) and become familiar with some emoji translators that are available on the Internet (e.g. <https://emojitranslate.com/>).



Figure 3. A sample text message with emojis

Source: <https://www.dailymail.co.uk/news/article-2886692.html>

#### **4) Homework:**

- a) Students are asked to create one-minute video elevator pitches. They are advised to watch the following video in case they need some help to record and edit their videos with their mobile phones:

<https://www.youtube.com/watch?v=1X3480PRhZ4>

- b) Then, the elevator pitches are shared with the whole class on the *Moodle Forum*. Students are involved in an online debate, commenting on their classmates' ideas, as well as asking and answering the questions regarding their viability and efficiency.

### **LESSON 3**

**Level:** Post-Intermediate, Advanced

**Time:** 90 mins (could be more if the teacher and students find the activity beneficial for the teaching-learning process)

#### **Aims:**

1. To consolidate their previous knowledge on video pitches
2. To reflect upon the major strengths and weaknesses of their video pitches
3. To become familiar with the jigsaw learning methodology

#### **Resources/materials:**

A room with a computer, a digital whiteboard or a film projector, and speakers, Internet access, a personal computer per group of students

#### **Possible problems:**

Slow Internet connection; no Internet access; server failure

#### **Procedure:**

##### **1. Pre-stage:**

The teacher introduces the aim of the class: To consolidate the knowledge acquired in the previous lessons through the assessment of the elevator pitches, reflecting upon their strengths and weaknesses.

##### **2. While-stage:**

- a) Students watch a set of eight two-minute videos by Fred Miller, the author of the book *No sweat Elevator Speech!: How to craft your elevator speech, floor by floor, with no sweat!* (2014). Each video describes each of the eight stages or floors to be reached when working on an elevator pitch:

a. *First Floor!* <https://www.youtube.com/watch?v=oM1kHAq9pIA>;

- b. *Second Floor!* <https://www.youtube.com/watch?v=jfljhPIGvcU>;
- c. *Third Floor!* <https://www.youtube.com/watch?v=H3VcZxs8h9A>;
- d. *Fourth Floor!* [https://www.youtube.com/watch?v=R\\_eDAimLgPo](https://www.youtube.com/watch?v=R_eDAimLgPo);
- e. *Fifth Floor!* <https://www.youtube.com/watch?v=hC15WxQ3VSM>;
- f. *Sixth Floor!* [https://www.youtube.com/watch?v=mapOlfZ\\_smE](https://www.youtube.com/watch?v=mapOlfZ_smE);
- g. *Seventh Floor!* <https://www.youtube.com/watch?v=9j0j0L-T33w>;
- h. *Eighth Floor!*

[https://www.youtube.com/watch?v=iRcKrcxVbGM&list=UUdPmYk6oJx2Djbn\\_s9C8d38A&index=44](https://www.youtube.com/watch?v=iRcKrcxVbGM&list=UUdPmYk6oJx2Djbn_s9C8d38A&index=44)).

- b) Following a jigsaw learning technique, a cooperative learning methodology that encourages both individual accountability and achievement of the team goals, the students are organized into eight ‘expert’ groups. Each ‘expert’ group summarizes one of Miller’s videos.
- c) Students are then shuffled into mixed groups; each group should include at least one member from each ‘expert’ group so that they all can have access to the eight summaries. Each group reconciles points of view and synthesizes information for each of the videos. Finally, they create a final report comprising all of the floors.
- d) The teacher presents the selection of the topmost ranking video pitches created and evaluated by students in the previous lesson and discusses them with the class according to Miller’s eight-floor recommendations.

### 3. Post-stage:

Students are asked to summarize what they have learned during the last three classes and to reflect upon the strengths and weaknesses of their elevator pitches with the help of the SWOT analysis template in Figure 4.

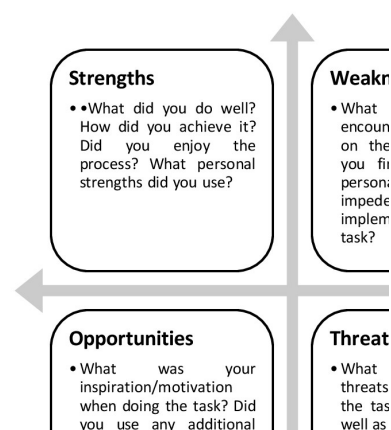


Figure 4. The SWOT analysis template

#### 4. Conclusions

This paper outlines the possibilities that educational mini-videos provide for fostering oral communication skills through active methodologies in the ESP engineering context. To illustrate the potential of mini-videos, we have created a set of three lesson plans focused on the genre of the elevator pitch to present new engineering products. We consider this resource an opportunity for curriculum renewal that facilitates and increases engineering students' performance and engagement. This will nurture the development of UPM students' effective oral communication skills, both within and beyond the classroom in the years to come.

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**Appendix. Elevator Pitch Video Assessment Sheet**

4 = Exemplary, skilled, marked by excellence.

3 = Competent, effective, accurate and clear, but lacks the exemplary depth, precision, and insight of a 4.

2 = Inconsistent, ineffective; shows a lack of consistent competence.

1 = Unskilled and insufficient.

	<b>Digital Oracy Skills</b>	<b>Level of competence</b> (from 1 to 4)
<b>Content area</b>	<p><b>Content:</b> Objectives and key ideas of the proposal are clearly stated in the video.</p> <p><b>Organization:</b> Good organizational structure; opening grabbed the listeners.</p> <p><b>Visual aids:</b> Visual aids were relevant.</p> <p><b>Audience:</b> Speech was perfectly designed for the audience and understandable.</p>	
<b>Linguistic area</b>	<p><b>Vocabulary:</b> The student incorporated a wide range of vocabulary appropriate to the topic; spoke clearly, with accurate pronunciation.</p> <p><b>Language variety:</b> A proper register was used (formal register).</p> <p><b>Structure:</b> Sentences were well constructed. There were very few grammar mistakes.</p>	
<b>Physical area</b>	<p><b>Poise:</b> The student appeared calm and confident; there was no distracting behaviour.</p> <p><b>Voice:</b> The student's voice was right for the space—not too loud or too soft; every word was heard; the student didn't mumble or blur words together.</p> <p><b>Gestures:</b> The student's hand, face, and body gestures were very effective.</p> <p><b>Speed:</b> The speed was appropriate: not too fast or too slow.</p>	
<b>Technical area</b>	<p><b>Sound, music and camera shots:</b> The camera was still and focused on the appropriate subject; timing was perfect: with enough time for viewers to grasp visuals.</p> <p><b>Graphics and special effects:</b> Introduction and ending graphics were engaging and relevant; sound effects and visual effects added to the mood and content.</p>	
	<b>TOTAL</b>	



# **A ROOM WITH A VUI – VOICE USER INTERFACES IN THE TESOL CLASSROOM**

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## **Abstract**

Disruptive technologies have seen how students interact with their teachers, how we as teachers now prepare and provide learning, and how we might best incorporate artificial intelligence into the classroom. To this end, the pedagogical affordances offered by the voice-user interface of digital assistants is explored. Instructional strategies supported by examples are then provided, along with means for actioning their use in the classroom and evaluating their appropriateness and viability for enhancing language learning.

**Keywords:** digital assistants; voice-user interface; interaction; speaking

## **1. Introduction**

As instructors, we no longer talk about technology replacing teachers, or even teachers who use technology replacing those that do not (John & Wheeler, 2015); instead we expect to be incorporating technologies for learning into our classrooms. This means that as instructors today, we need to be able to competently apply that technology and competently assess and evaluate the suitability and appropriateness of how that technology has met intended teaching and learning objectives, while also understanding all levels of the educational potential behind its use, and assisting learners in being able to identify those elements as well (Fotos & Brown, 2004; Levy and Stockwell, 2006). This is important because teaching in the time of digital language learning sees us not just doing old things in new ways, but it has ushered in a total era of ‘newness.’ There are new things to do, new ways to think, new methods of managing relationships with others (and AI – artificial intelligence), and new practices in teaching that require us to adopt new skills and new abilities (Jones & Hafner, 2012). These changes have been disruptive, and include how our students interact with us as teachers as well as how we as teachers prepare and provide learning opportunities inside and outside of the classroom, with access and exposure to technology leading to increasingly interactive, social, and multimodal ways of learning (Richards, 2015). For teachers, too, it may lead to changes regarding ‘with

whom' we will teach, and how best we might begin to integrate robots and AI-based digital assistants into the classroom as teaching aids, as well as how their value can be harnessed to provide learners with life-long study companions. Exploring this last facet, and presenting practical ways for teachers to take advantage of teaching English with this technology while evaluating the usefulness of the actions and skills available, is the aim of this article.

## **2. Situating digital assistants in the educational context**

Similar interactions that digital assistants now provide through a VUI (voice user interface) have long been seen in terms of chatbot use, notably with ELIZA which gives the illusion of understanding by matching user prompts to scripted responses (pattern matching), but it had no built-in framework for the contextualization of events (Weizenbaum, 1966). Since then, there have been many chatbots (Shawar, 2017) created for many different purposes (Fryer, Nakao, & Thompson, 2019) including ALICE and Watson. ALICE (artificial linguistic internet computer entity) is a natural language processing chatbot which relies on heuristic pattern matching rules when receiving human input (Shawar & Atwell, 2015). Watson, developed by IBM, was originally designed to compete on the television show *Jeopardy!* where it went on to beat two of the show's former champions (Sony Pictures Television, 2010), and it has since gone on to be used to help analyze big data. Recently too, messenger bots are being employed to engage people for entertainment purposes or to handle customer inquiries (Baier, Rese & Roglinger, 2018; Facebook Business, 2018). Evidence also suggests that an increasing amount of social media content is being generated by autonomous entities like social bots that interact both with each other and with humans (Varol et al., 2017).

Although Coniam (2014) did find that the accuracy of text-based chatbots for use as conversation practice machines did need improvement before they could be extensively utilized as a language partner, Enge (2018) has since shown that the accuracy of voice-driven digital assistants is increasing year-on-year. So too, as Underwood (2017) highlights, voice interaction technology has advanced more in the last 30 months than in the previous 30 years, with Nordrum (2017) concluding that error rates for voice-recognition systems are now nearly on par with that of humans. In an extensive study which asked 4,952 questions of each digital assistant with a focus on their ability to answer general knowledge questions, Google came out in the lead (Enge, 2018). The study also points out that by and large, erroneous responses from digital assistants occurred as a result of poorly structured or obscure inquiries. It was also found that users were able to identify incorrect responses and were not misled by erroneous answers.

For language learning through, and specifically in the TESOL (teaching English to speakers of other languages) context, chatbot use has been viewed favorably by learners (Fryer & Carpenter, 2006), with Kim (2017) noting that voice-based chatbots were better received and proved to be more effective than text-based ones for providing teaching and learning in a classroom context. It has also long been known that those students who possess low self-confidence in their foreign language abilities do prefer to interact with a chatbot over a human (Fryer, 2006), and that such interaction can provide for learner autonomy (Shawar & Atwell, 2007) and intrinsic motivation for learning (Jia & Chen, 2008).

However, there have also been instances where benefit has been determined to derive from a novelty effect (Fryer et al., 2017), where chatbot interactions have come to confound communication (chatbot-student) by veering off topic, or where instances of miscommunication (student-chatbot) have occurred (Fryer & Nakao, 2009). So too, teacher attitude to chatbot use, as with many activities, has also been seen to impact upon the classroom success of these technologies (Bii, Too, & Mukwa, 2018), or lack thereof, and this would likely transfer over to any use of digital assistants. Increasingly then, factors considered essential for the design of foreign-language learning with such systems need to be taken into consideration when developing interactions with them, keeping in mind that it is not the technology that drives learning but the pedagogy put in place behind the technology that ultimately leads to learning outcomes (Chapelle, 1997).

### **3. Digital Assistant Voice User Interfaces for the teaching of English as a foreign language (EFL)**

#### **3.1. Pedagogical considerations**

While paramount for language learning, conversation practice can often prove difficult to obtain and, if continually attending classes, perhaps expensive to engage in (Fryer, Nakao, & Thompson 2019). Digital assistants can serve as a means of providing this practice, especially if integrated into the teaching and learning context both at home and in the classroom (Underwood, 2018). Speaking to machines, seeing or hearing appropriate responses actioned, also provides learners with a reason to speak that is inherently motivating and meaningful. However, the long-term effect of digital assistants and students' perceptions of digital assistants as language learning companions, along with the usefulness of such devices for language learning, remains largely unexplored. What we do know is that they can provide a means of interaction that lowers the affective filter (Brown, 2014), which can then lead to the promotion of speaking that is not necessarily contrived.

The main challenge present in today's language learning classrooms, as Hsu (2015) points out, is the lack of time available to provide students with input and output opportunities from a stress-free environment. The opportunities that a digital assistant may then afford is the ability to free up class time, allow for more focused and personalized instruction, and provide learners with stress-free opportunities for increased input exposure and output practice in terms of both quality and quantity. Such interaction, particularly one that involves peer collaboration and learner-centered tasks in a classroom-based context, can help establish a safe-speaking environment for students (Dornyei, 2018). In the case of voice interaction, particularly in RALL (robot assisted language learning), students have experienced lower levels of anxiety coupled with an "increased positive attitude toward learning", and "believed they were learning more effectively, which helped them boost their motivation" (Alemi, Meghdari, & Ghazisaedy, 2015, p. 523). Dizon (2017) also recognizes that the voice user interface of digital assistants is useful, particularly when combined with in-class teacher-facilitated interactive practices that rely on the use of "personalized, computer-mediated instruction as an approach to extend the reach of the classroom" (Moussalli & Cardoso, 2016, p. 325).

The significance, then, that this kind of technology affords teachers is that it can be used to provide support for tasks and classroom management while also delivering opportunities that include:

- provision of voice-driven learning from a safe speaking space;
- dialogue-driven interactions requiring multiple as well as singular turn-takings;
- practice opportunities to develop fluency, as well as active (speaking) and passive (listening) skills;
- access to a variety of actions or skills to engage learning (game-based, story-based, drill-based, content-specific action-based interactions);
- one-on-one individualized language learning and language practice support (Winkler & Sollner, 2018);
- instant access to content that is authentic and factual, with such information coming from a known and trusted database.

Working with digital assistants, then, particularly in the language learning classroom, is mainly about creating more meaningful speaking opportunities that are integrated in sensible ways to prepare students to use that language in the future (Underwood, 2017). This is particularly important as our students will now be living with AI as part of their daily lives, and they need to know how to engage critically and actively with these intelligences. This is especially

relevant as 70% of children aged 8-17 are using voice-assisted technologies, predominantly for information searches, but also to ask questions, play music, and to get advice or help (UK Safer Internet Centre, 2018). This also illustrates that there is now no need to memorize facts or figures, as these are all available instantly. However, students do need to know how to assess this information and determine how best to apply it for their needs, for solving problems, for completing specific tasks, or for achieving particular outcomes.

Teachers incorporating digital assistants into the classroom or for use with learners also need to think about what it is that the AI should be doing, and how this changes the role of language facilitation. For example, establishing an environment where students can work in an atmosphere that supports self, partner, and teacher collaboration with the AI, and one that seeks to provide a means of scaffolding and social interaction as they learn (Vygotsky, 1978). Utilization of AI can also assist teachers in identifying student knowledge gaps, particularly when analyzing transcripts of interaction to identify learner needs (e.g., vocabulary improvement, and structure practice), while outside of the classroom, students can use them as language learning companions (e.g., helping them to complete homework, and providing access to additional tutoring or study programs).

### **3.2. Digital Assistant classroom affordances and shortcomings**

Keeping the above in mind, digital assistants can be seen to offer several affordances but they also come with several shortcomings that instructors should consider and aim to circumvent when implementing the technology.

Some of the main advantages may include:

1. Natural interaction, with instant real-time responses that can encourage motivation and learner engagement while lowering their affective filter.
2. Authentic content exposure, particularly when asking factual questions or for further information on a given topic, including spelling and vocabulary. This is effective for learning as it provides students with personalized, and as such, more useful, feedback.
3. Active (speaking) and passive (listening) skills development, while also helping students focus upon pronunciation as they communicate their message or intents.
4. Interaction (Chapelle, 2015) that sees students being able to engage in the negotiation of meaning, obtain enhanced input, and direct their attention to linguistic forms.
5. Support for several learning methods and approaches (including game-play).
6. Additional learning pathways for students with various disabilities. This includes those who are visually-impaired or dyslexic, have dysgraphia, or have hearing disabilities if

screen-based digital assistants are employed.

On the other hand, shortcomings might arise from:

1. Frustrations when user commands and questions, or their responses, are continuously misheard or misunderstood (especially if students have speech difficulties). This can be alleviated by the instructor guiding students with appropriate models that can be used, helping students understand why the miscommunication occurred, working with the assistant to have it understand what is trying to be communicated, and helping students to work out how to use language to get the answers that they need. This also allows teachers to focus on getting students to think critically, and to help them develop higher-order thinking skills.
2. Fossilization or stabilization might occur as the assistants can understand sentences and utterances that are not always grammatically correct. This does allow students to continuously engage with the device as they are understood and are able to communicate, and it also provides teachers with the opportunity to provide better models for students to practice when using the device.
3. Privacy concerns might need to be considered as the device can record what is being said and asked of it. This does provide an opportunity to raise e-safety concerns and data protection questions with learners. Checking the transcripts of the device after class can also allow instructors to see how students interact with the assistant, which provides opportunities to analyze student utterances for grammar issues and to see if new vocabulary is being integrated into their language output.
4. Accessibility is important, with internet access needing to be stable and reliable for use with these devices. Otherwise, the device may not function at all or it may have trouble retrieving or playing back content.
5. Inappropriateness may arise with particular students asking questions that are rude or distracting. One way to counter this is to discuss responsibilities such as digital citizenship before using the digital assistants in class, and to inform them that the device is going to know what they have asked it and that others will also hear what they say.
6. Voice recognition may be an issue with a rowdy class or many students speaking at the same time. However, this could help develop turn-taking skills in students.

## **4. Instructional strategies**

### **4.1. Incorporating digital assistants into the language classroom**

Essentially, there are three main ways that an instructor may wish to integrate the use of digital assistants with learners, and these are

- 1) for classroom management and teaching aid purposes,
- 2) for learning purposes,
- 3) as a personal language companion outside of the classroom for students themselves.

This can be broken down into two broad categories, that of

- 1) classroom management, and
- 2) language learning.

Classroom management actions and skills would include teaching aids, timers and reminders, choosing volunteers and team leaders, and the streaming of content; whereas language learning actions and skills would cover answering inquiries, vocabulary, pronunciation, listening and speaking, reading and writing, creating content, games, stories, songs and streaming content, and formative assessment. (See [Appendix A](#) for further details).

Importantly though, as with other technologies, the use of a digital assistant with language learners needs to be guided, with the teacher perhaps preparing content or worksheets that can be utilized with the digital assistant in order to promote the learning outcomes desired. It is a good idea to start small, and keep a list of voice commands or actions and skills handy for teacher and student reference, especially the ones that you would like to try, or find yourself and your pupils frequently using. (See [Appendix B](#) for examples).

When starting out, it is also important to set guidelines of use for students. Instructors may wish to allow only one student at a time to access the device, and in this way, they can begin to track the kinds of questions or phrases that students are using so that they can record the ones that work (or the ones they would like to provide modeling for). Use of the device in the classroom can also be added to the ‘ask 3 before me’ concept, where students need to talk to three peers in order to learn how to solve an issue or problem before going to the teacher. Other specific use cases for digital assistants might also revolve around a lesson on asking *wh*-type questions or ones that involves tongue-twisters. ([Appendix C](#) provides lesson plans, teacher notes, and student handouts for using digital assistants in both of these ways).

### **4.2 Evaluating digital assistant actions or skills**

As most of the actions/skills that are available for use with digital assistants have not been designed for the TESOL classroom or the English language learner specifically, using an

evaluation rubric is perhaps essential to assess the quality of those that are available. To this end, a technology integration evaluation rubric (TIER) has been developed to assist instructors in determining the potential benefits, or the ‘worthwhileness’, of employing chosen technologies within their teaching and learning contexts. A rating scale that goes from 1 to 5, with 1 being poor, 2 fair, 3 average, 4 good, and 5 excellent, has been adopted in order to identify those aspects of technology integration that are weak, and those that align well with target objectives. The rubric itself, along with the conceptual model used to develop it, is included in [Appendix D](#), as is a blank template that instructors can utilize to create an individualized TIER.

## **5. Conclusion**

Although not new, it is only now that voice-driven interaction with machines is beginning to change the way we use language and, to some extent, the nature of learning itself. Rather than communicating solely human-to-human, we are increasingly communicating human-to-machine and machine-to-human. The rise of this kind of communication also begins to raise questions about the need to embody additional languages within humans as well as robots, and in turn, why we might want or need to learn an additional language.

For now, however, as with any technology, teachers should analyze and evaluate how and why voice-assisted language learning with AI, through the use of digital assistants, is worthwhile before integrating it within the teaching and learning context, and this article provides several means for instructors to do so. It is also important to adapt any technology use to student and curriculum needs, remembering that it is not the technology that drives learning but the pedagogy put in place behind the technology that ultimately leads to learning outcomes (Chapelle, 1997).

With access to instant real-time information (including translation, spelling, diction, and fact-based information), the opportunities that digital assistants and voice-user interfaces afford language learners is well worth exploring. To this end, it is hoped that this article will inspire instructors to continue this conversation in future articles, by illustrating a variety of use-case scenarios for teaching English with this technology, and encouraging researchers to develop empirical studies into the use of digital assistants for teaching English that goes beyond the handful that currently exist (Dizon, 2017; Moussalli & Cardoso, 2016, 2017).



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## Appendix A

This appendix provides a taste of how a digital assistant may be used by teachers and with learners. A complete listing of all [Alexa Skills](#) and [Google Assistant Actions](#) is available at their respective websites, and can be reviewed by teachers to see how they may best fit their unique teaching context.

### **Classroom Management Examples**

**Teaching Aids:** asking questions; checking spellings, definitions, antonyms/synonyms, translations; providing special effects (drum rolls before answers, round of applause if correct).

**Choosing volunteer and team leaders:** random number generation; picking a number between two given numbers; playing heads or tails; playing rock, paper, scissors.

**Streaming content:** news; weather; white noise; audio; video; podcasts.

### **Language Learning Examples**

**Answering inquiries:** asking fact-based questions. (e.g., to complete tasks like webquests, conducting research for a writing assignment, completing questions assigned by teachers, or obtaining information on vocabulary/themes under study). The Action/Skill [Safari Mixer](#) could be useful here.

**Vocabulary, pronunciation, and writing:** asking for spelling, definitions, meanings, synonyms, antonyms, pronunciations, translations, and repeating of words and phrases; controlled practice using the spelling ability to practice hard-to-distinguish sounds (e.g., minimal pairs); for actions or skills, saying ‘Tell me a new word’ to Google Assistant, or to [Daily Word](#) on Alexa.

**Listening and speaking:** [Ditty](#) (on Alexa) can help motivate controlled practice of specific structures (e.g., students might say ‘Ditty sing: *If I were an animal, I’d be a cat*’); games like Simon Says can be played to actively practice listening skills; and for lower levels, challenges such as ‘Which group can get all the answers from the digital assistant first?’ might inspire increased language output and input.

**Reading and writing:** Alexa has access to audio books and can read Kindle content. Google through [Story Speaker](#) and Alexa through [Invocable](#) allow for the development of actions and skills that can read back blocks of text that students have previously met during study, with the instructor developing questions for review and ones that move students on to more text and practice with content.

**Creating content:** Creating a voice-driven app cannot only help students in the reading and writing process. During such a process, they will also need to think critically and creatively about language and communication in terms of how they use language, the questions that they need to ask, questions that they expect someone might ask a digital assistant, and all of the ways that those questions then need answering. Templates that can be used to develop these skills without coding are available from [Actions on Google](#), [Alexa Blueprints](#), and Google Voice Experiments such as [Story Speaker](#).

**Games:** flash-card and trivia-based games that can be used for review, speaking, listening, vocabulary, or pronunciation practice, along with Jeopardy! style or Twenty Question type games like [Mystery Animal](#) where the assistant pretends to be an animal and users need to guess what animal it is by asking relevant questions. Questions need to be those that draw a yes or no answer, such as ‘Do you have feathers?’, ‘Do you sleep at night?’. It can be played on Google Home or on the [website](#). An alternative for Alexa is [Twenty Questions](#) where the digital assistant will attempt to guess the animal, vegetable, mineral, or music-related item that you or a student has chosen.

**Short stories:** fairy tales and choose-your-own adventure type. Here, students can listen and work their way through the stories with the teacher providing additional activities such as retelling tasks, writing dialogues between two characters, summarizing the story, completing word form charts, and taking notes of unfamiliar vocabulary to later ask the digital assistant about. Composing choose-your-own adventure stories with [Story Speaker](#) for Google Assistant or [Invocable](#) for Alexa can see students being presented with a scenario, such as providing tech support for a company and needing to think through a story process where various clients might telephone them with computer problems, to which they need to offer solutions. They could also be given a scenario where they take a short holiday and have to choose between a cheap or expensive hotel, and go on to provide interactions and (mis)adventures that can be experienced while on holiday.

**Songs and streaming content:** streaming of podcasts, music, karaoke, and white noise; reading of Kindle and playback audio books from Alexa. Here, skills such as [Ditty](#) can be used to turn spoken phrases into musical ditties matched to popular music with students using sentences from their text or those they have specifically created, with these then being tweetable.

**Formative assessment:** Accessing transcripts of student interactions with the digital assistant (e.g., if you have set an activity that requires students to use set phrases, vocabulary, and structures with the digital assistant, you would be able to review the transcript of the session, parsing it through such websites as the [Compleat Lexical Tutor](#) in order to profile the vocabulary and grammar used. This would then allow teachers to identify which students may need to do further work, and what could be covered more extensively in other classes and for review.)

**Appendix B**

The following handout can be used by teachers and students as a reference guide to the kind of invocations that can be used for developing language learning both from within and outside of the classroom.

<b>Digital Assistant Classroom and Language Learning Invocations*</b>	
*There are so many more available that can be found by experimenting with what to ask!	
<b>Classroom Management</b>	<b>Command</b>
<i>Timers</i>	'Set a timer for [x] minutes/hours/days', 'Set [x] minute/hour/day timer'
<i>Reminders</i>	'Set a reminder [for Brad to take his medication]', 'Set a reminder for [students to change partners/ take an exercise break/etc]'
<i>Choosing volunteers</i>	'Pick a number between two given numbers', 'Heads or tails', Play rock, paper, scissors'

<b>Language Learning</b>	<b>Command</b>
<b><i>Vocabulary/Phrases</i></b>	
<i>Definitions</i>	'Define [word/phrase]', 'What is a [word/phrase]?', 'What is the definition/meaning of [word/phrase]?'
<i>Synonyms/Antonyms</i>	'What is the synonym/antonym of [word/phrase]?'
<i>Spelling</i>	'How do you spell [word/phrase]?'
<i>Grammar</i>	'What is the plural of [noun]', 'What is a [word or phrase form/grammar]?', 'What is the use of [word or phrase form/grammar] in English?'
<i>Translation</i>	'Translate [word/phrase] to [language]', 'How do I/you say [word/phrase] in [language]?'

<b><i>Speaking</i></b>	
<i>Pronunciation</i>	'How do you pronounce [word/spell out word by letter]?'

<b><i>Listening</i></b>	
<i>Books</i>	'Read', 'Get audible [book name]', 'Read Kindle [book name]'
<i>News</i>	'What's the latest news?'
<i>Wikipedia</i>	'Wikipedia [topic]'
<i>White noise</i>	'Play [white noise/rain forest sounds/beach noises/etc]'
<i>Streaming music</i>	'Play [artist name/genre of music/song name]'
<i>Streaming video</i>	'Play [artist name/genre of music/song name/movie name/ TV episode name and number] on [Chromecast/Fire TV

	<i>Stick]</i> '
<i>Streaming podcasts</i>	<i>'Play [podcast/podcast number]'</i>
<i>Stories</i>	<i>'Tell me [a story/a fairy tale]'</i>
<i>Facts</i>	<i>'Tell me [something interesting]'</i>

<b>Fun</b>	<b>Assistant</b>	<b>Action/Skill</b>
<i>Interactive Stories</i>	Alexa	<i>Magic Door, My African Safari</i>
	Google	<i>Magic Door, 'Let's read along with Disney'</i>
<i>Music</i>	Alexa	<i>Ditty, 'Sing a song'</i>
	Google	<i>Mixlab, 'Sing a song'</i>
<i>Games</i>	Alexa	<i>20 Questions, Simon Says, Spelling Bee, Spelling Master</i>
	Google	<i>Akinator, Freeze Dance, Mystery Animal, Mystery Sounds, Simon Says</i>
<i>Jokes</i>	Alexa/Google	<i>'Tell me a joke'</i>

<b>Miscellaneous</b>	<b>Command</b>
<i>Weather</i>	<i>What is the temperature? What is the weather [for today/for tomorrow/in X]? When is the [next full moon]? When/what time is [sunrise/sunset]?</i>
<i>Astronomy</i>	<i>How many planets are there? What is the closest planet to the sun right now?</i>
<i>Animal/vehicle noises</i>	<i>What noise does an [animal/vehicle] make?</i>
<i>Math</i>	<i>What is the [sum/product/difference/quotient] of [two numbers]?</i>
<i>Statistics</i>	<i>What's the population of [place]?</i>
<i>Capitals</i>	<i>What is the capital of [state/province/country]?</i>
<i>Celebrities</i>	<i>Who is [famous person/celebrity name]?</i>
<i>Inventors</i>	<i>Who invented [item]?</i>
	<i>Who was the inventor of the [item]?</i>
<i>Health/Anatomy</i>	<i>How many [bones does the human body have]?</i>
	<i>What does the [body part] do?</i>
<i>Hobbies</i>	<i>What books did [author] write?</i>
	<i>What is [book title/movie] about?</i>
	<i>What books would you recommend for [me/a x-year-old]?</i>
	<i>What is a good movie to see right now?</i>
<i>Cooking</i>	<i>Find me a recipe for [food].</i>
	<i>How do I make [food]?</i>
	<i>Convert [imperial] to [metric]</i>
<i>Finance</i>	<i>How much is [x currency] in [y currency]?</i>

	<i>What is the exchange rate from [x currency] to [y currency]?</i>
<i>Occupations</i>	<i>What does a/an [x] do? What is it like to be a/an [occupation]?</i>
<i>Shopping</i>	<i>What time is [x] open until? Where can I buy a/an [item]?</i>



### Appendix C

This section presents two use-case scenarios for digital assistants in the language learning classroom. The first example implementation is that of using tongue twisters, the second is a lesson plan for the practice of wh-type questions with students.

#### **Example implementation 1: tongue twisters**

Tongue twisters are often used to help students practice their pronunciation and improve upon their fluency. Google Assistant has access to tongue twisters built in but a [Tongue Twister](#) skill will need to be enabled on Alexa.

**Warm-up.** Tongue-twister use is an easy way to provide a lesson warm-up that transitions students into speaking immediately. To begin practicing tongue twisters with students, write some of the more popular ones that would help with your target learners' problem pronunciations on the board. You could also ask students to write up, and speak out, some tongue twisters from their L1. Try them out for yourself in order to help create a connection with students.

**Activity.** The digital assistant can be used here to speak out a tongue twister for the class to engage with under guided practice. Students can also be provided with a tongue twister each (see the example student handout). They could then be asked to read through the list of tongue twisters together with the teacher or with their partner(s). The digital assistant can then be asked for a random number to select a student (perhaps using roll sheet order) who can then read out a tongue twister for everyone to complete for whole-class practice.

**Practice.** The activity can then be extended by placing students into groups, with the following written on the board or provided as a handout.

Get into teams of five and make your own tongue-twister.

For each person:

1. On a piece of paper, write your first name, and pass the paper to the person on your right.
2. Write down something that he/she did, and pass the paper to the person on your right.
3. Write down where he/she did it, and pass the paper to the person on your right.
4. Write down when he/she did it, and pass the paper to the person on your right.
5. Write down the reason why he/she did it, and pass the paper to the person on your right.

This will give each group five tongue twisters. Students might need to see some examples such as:

*David drank a drink in downtown Denpasar at daylight to distress.*

*Noddy needed noodles in Neverland at noon to nibble on.*

Tell students that they can ask questions to the digital assistant to help them create their tongue-twisters. These might include:

*What are some actions that begin with the letter [...]?*

*What are place names that begin with the letter [...]?*

*What are emotions that begin with the letter [...]?*

**Further practice.** As either a test, or for those students who complete the writing of their individual tongue twisters early, the digital assistant can be used to repeat the tongue twisters that students are saying. It can also be used by them to see if they are pronouncing the sentences adequately. Additionally, they can ask the digital assistant to speak additional tongue twisters for them to practice.

**Example student handout for use with tongue twister practice and the use of a digital assistant**

<b>Tongue Twisters!</b>
<p><b>Warm-up</b></p> <p>Tongue twisters are tricky, but they can help us practice pronunciation.</p> <p>What is a tongue twister from your language?</p> <hr/> <hr/>
<p><b>Activity</b></p> <p>Let's ask our digital assistant for a tongue twister: 'Hey, Google/Alexa. Tell me a tongue twister.'</p> <p>Practice speaking it aloud, and write it out here:</p> <hr/> <hr/> <p>Here are some tongue twisters. Try speaking them aloud now with your teacher and your partner(s).</p> <ul style="list-style-type: none"> <li>• <i>Fuzzy Wuzzy was a bear. Fuzzy Wuzzy had no hair. Fuzzy Wuzzy wasn't fuzzy, was he?</i></li> <li>• <i>How many cookies could a good cook cook, if a good cook could cook cookies?</i></li> <li>• <i>I saw a kitten eating chicken in the kitchen.</i></li> <li>• <i>I scream, you scream, we all scream for ice cream.</i></li> <li>• <i>If a dog chews shoes, whose shoes does he choose?</i></li> <li>• <i>Four fine fresh fish for free.</i></li> <li>• <i>Fred fed Ted bread, and Ted fed Fred bread.</i></li> <li>• <i>She sells seashells by the seashore.</i></li> </ul>
<p><b>Practice</b></p> <p>Get into teams of five, and make your own tongue twisters.</p> <p>For each person:</p> <ol style="list-style-type: none"> <li>1. On a piece of paper, write your first name, and pass the paper to the person on your right.</li> <li>2. Write down something that he/she did, and pass the paper to the person on your right.</li> <li>3. Write down where he/she did it, and pass the paper to the person on your right.</li> <li>4. Write down when he/she did it, and pass the paper to the person on your right.</li> <li>5. Write down the reason why he/she did it, and pass the paper to the person on your right.</li> </ol> <p>This will give your group five tongue twisters.</p> <p>For example,</p> <ul style="list-style-type: none"> <li>• <i>David drank a drink in downtown Denpasar at daylight to distress.</i></li> <li>• <i>Noddy needed noodles in Neverland at noon to nibble on.</i></li> </ul> <p>You might need to ask the digital assistant to help you create your tongue twister.</p> <p>Ask questions like:</p> <ul style="list-style-type: none"> <li>• <i>What are some actions that begin with the letter [...]?</i></li> <li>• <i>What are place names that begin with the letter [...]?</i></li> <li>• <i>What are emotions that begin with the letter [...]?</i></li> </ul>

**Example implementation 2: wh-type questions**

<b>Lesson plan guide for digital assistant use when practicing wh-type questions with students</b>	
<b>Teaching context</b>	
<b>Level of proficiency</b>	Beginner to advanced.
<b>Level of maturity</b>	Adaptable for use with young learners through to adults.
<b>Lesson length</b>	One lesson (at some point during the week or term). Time allotted for the activity: 50 minutes. Homework completion components (if required).
<b>Lesson topic</b>	Wh-type question practice, and answer word order.
<b>Objectives</b>	<ol style="list-style-type: none"> <li>1. Understand and use wh-type question words (e.g., What? Where? Who? When? Why? How?)</li> <li>2. Generate authentic wh-type questions to use in a real-world context.</li> <li>3. Understand the appropriate word order for answering wh-type questions.</li> </ol>
<b>Outcomes</b>	<ol style="list-style-type: none"> <li>1. Students will show evidence of the ability to use the structure of wh-type questions correctly.</li> <li>2. Students will show evidence of the ability to respond to wh-type questions using appropriate word order.</li> <li>3. Students will speak with a digital assistant to get answers to the questions that they have developed.</li> </ol>
<b>Relevant prior learning</b>	None, although students could have been introduced to the grammar and the use of wh-type questions previously, in which case the lesson can serve as a solidification and review.
<b>Teacher preparation</b>	
<b>Hardware</b>	A specific digital assistant device (e.g., Amazon Echo, Google Home); or a computer, smartphone, tablet with a microphone and a digital assistant running on the platform. Stable internet access.
<b>Software</b>	Digital assistant built-in actions and skills
<b>Webpage links</b>	YouTube videos practicing wh-question-type use.
<b>Additional resources</b>	Handout for student reference to work on during class and/or for homework.

<b>Procedure – Day 1 of 1</b>			
<b>Stage and timing</b>	<b>Objective</b>	<b>Teacher</b>	<b>Students</b>
<b>Review stage (10 minutes)</b>	Remind students of the type of wh-type questions that exist. Provide a word order with examples.	Teacher writes wh-type question words on the board (e.g., What?, When?, Who?, When?, Why?, How?) prompting students after each one is written (e.g., What time is it?).	Students answer the questions that the teacher prompts them to answer using appropriate word order. Responses can be whole-class or individual. (Use the digital assistant to select a random number corresponding to the roll sheet.)
<b>Warm-up stage/ pre-technology use (15 minutes)</b>	Introduce question words and the reason why each may be asked, and introduce example questions for each. Focus on the grammar, and how to answer each type.	Point out the specific word order required for answering wh-type questions. For example, asking about the subject of a sentence.	Students can practice with a partner, asking and answering various types of questions from the examples provided by the instructor. (Set a timer with the digital assistant in order to know when to transition to the next phase of the lesson).
<b>Main stage (15 minutes)</b>	Practice writing and asking questions with an accompanying worksheet.	Ensure that students develop at least five questions, each using a different question word, and following appropriate word order.	Students ask the digital assistant to answer their five questions, writing down the answers that they hear.
<b>Lesson summation stage/ post-technology activities (10 minutes)</b>	Students should be reminded of the lesson's goals. They should be able to practice asking and answering with various question words, and be able to understand the appropriate word order to achieve this.	Remind students of what they should have achieved, and ask them to practice asking questions to the digital assistant and writing down the answers.	Students should have completed the associated worksheet (see the section <i>Example student handout</i> ), writing down five questions to ask the digital assistant, and the answers that they heard. This could also be assigned for homework.

<b>Further considerations</b>	
<b>Follow-up activities</b>	Students can ask their questions to partners to see if their partners' answers match those of the digital assistant. While pairs are waiting to speak to the digital assistant, they can ask their partners the questions that they created. This can help to develop listening-comprehension skills as well as help students to critically reflect upon the answers that they receive.
<b>Contingency plan(s)</b>	The entire lesson can be used with the digital assistant component swapped out for peers or the teachers (or for parents, siblings, or friends if being used in a homework scenario). Alternatively, the next lesson in the course syllabus could be ready for use in case there is a problem. Additionally, some short time-filler activities, like language games, can be prepared to fill in the time if technological problems occur. Several activity sheets, for review of previous material, could also be on hand to allow those students who complete the activities early to keep busy with language content.
<b>Evaluation</b>	<p>What are the biggest frustrations for implementation?</p> <p>Can these be remedied next time?</p> <p>What are the successes of the lesson?</p> <p>What did students get out of this activity?</p> <p>Can more language practice be provided?</p>

**Example student handout for wh-type question word use and practice when using a digital assistant**

<b>Practicing Wh-type Question Words</b>		
<b>TO ASK</b>		
<b>Question Words</b>	<b>Meaning</b>	<b>Examples</b>
Who	Person(s)	Who is he/she/that? He/she/that is MinSu. Who are they? They are MinSu's parents.
Who(m)	Object of the verb	Who(m) did you meet? I met the director.
Where	Place	Where do you live? In Seoul.
Why	Reason	Why do you go to bed early? Because I have to be at work early.
When	Time	When do you go to work? At 6 AM.
How	Manner	How do you go to work? I go by public transport.
What	Object Idea Action	What is it? It's a frog. What are you thinking about? I'm just day dreaming. What do you do? I am a teacher.
Which	Choice	Which one do you want? I want the cheap one.
Whose	Possession	Whose book is this? It's hers/his/theirs.
What kind	Description	What kind of music do you like? I like all kinds of music.
What time	Time	What time did you get home? I got home at 9 PM.
How many	Quantity (count)	How many students are there? There are five.
How much	Amount (non-count) Price	How much time do we have before class ends? Five minutes. How much is the fish? Five dollars.
How long	Length Duration	How long is a mile in kilometers? It's almost 1.61 kilometers. How long did you stay in Japan? I stayed overnight.
How often	Frequency	How often do you exercise? I exercise every day.
How far	Distance	How far away is your school? It's five minutes away by car.
How old	Age	How old are you? I'm 18.
How come	Reason	How come I didn't see you in class yesterday? I was sick.

<b>TO ANSWER</b>
<p>To ask about the subject of the sentence add the question word at the beginning. For example,</p> <p style="text-align: center;"><i>Sharon writes great poetry. – Who writes great poetry?</i></p> <p>To ask about any other part of the sentence and there is an auxiliary (helping) verb, put the question word and the auxiliary verb in front of the subject. For example,</p> <p style="text-align: center;"><u>She can</u> speak Korean – <i>What can she speak?</i></p> <p style="text-align: center;"><u>They are</u> leaving tomorrow. – <i>When are they leaving?</i></p> <p>If there is no auxiliary verb and main verb is a form of <i>be</i> (<i>am, is, are, was, were</i>), put the question word and the form of <i>be</i> in front of the subject. For example,</p>

The movie was interesting. – How was the movie?

If there is no auxiliary verb and the main verb is not a form of *be*, put the question word and a form of *do* (*do*, *does*, *did*) in front of the subject. For example,

They go to *the park* every Sunday. – *Where do they go every Sunday?*

She wakes up *early*. – *When does she wake up?*

He ate *a hamburger*. – *What did he eat?*

### WORD ORDER

a) General: question word + auxiliary + subject + verb

*Where were you born? – I was born in \_\_\_\_\_.*

b) Subject questions (with no auxiliary)

*Who sang the song Gangnam Style? – \_\_\_\_\_ sang it.*

*Which team won the 2018 World Cup? – \_\_\_\_\_ won the 2018 World Cup.*

c) Object questions (with *be* as the main verb)

*Who is your favorite singer? – My favorite singer is \_\_\_\_\_.*

### PRACTICE

#### The kinds of questions to ask the digital assistant

- *What is the largest city in the world?*
- *What is the smallest country in the world?*
- *What is the tallest building in the world?*
- *Where is the Burj Kalifa?*
- *Which football team won the 2014 World Cup?*
- *How do you spell context?*

**ASK ALEXA/GOOGLE ASSISTANT**

1. Think of five questions to ask the digital assistant.
2. Write down the questions, and then the answers that you hear?
3. While waiting to speak to the digital assistant you can ask your partner your question.
4. Check to see if the answers they give are the same!

**Who?**

Assistant:

Partner:

**What?**

Assistant:

Partner:

**Where?**

Assistant:

Partner:

**When?**

Assistant:

Partner:

**How?**

Assistant:

Partner:



**Appendix D**

The following figures provide the Technology Integration Evaluation Rubric, the conceptual model behind the development of the rubric, and a blank template that teachers can use to create their own evaluation rubric for use within their unique teaching context.

<b>Technology Integration Evaluation Rubric (TIER)</b>		
<b>Aspect</b>	<b>Criteria</b>	<b>Score</b>
<b><i>The technology (hardware or software)</i></b>	Matches with core learning objectives (e.g., developing fluency, increasing listening practice, practicing vocabulary)	1 2 3 4 5
	Content assists with learner development (e.g., provides communicative fluency, grammar-based activities)	1 2 3 4 5
	Meshes well with the instructor (e.g., teaching style, classroom management techniques, time for development and incorporation into lesson plans)	1 2 3 4 5
	Appropriate for use with the target learner (e.g., age, language level, motivation)	1 2 3 4 5
<b><i>Content</i></b>	Content and software is error-free (e.g., no bugs; no spelling, grammar, or pronunciation errors)	1 2 3 4 5
	Provides relevant content and topic (e.g., authentic, timeless, up-to-date, holistically useful)	1 2 3 4 5
	Content can be modified, tailored, or guided for effective use (e.g., add content on demand, rework content to a lesson)	1 2 3 4 5
	Content is reusable (e.g., with the same students, across classes, across the curriculum)	1 2 3 4 5
	Content is shareable (e.g., not locked to a single student/class, distributable to other stakeholders)	1 2 3 4 5
<b><i>Evaluation</i></b>	Instructor use of the technology provides growth (e.g., leads to action research, pedagogical improvement)	1 2 3 4 5
	Easy to teach others how to apply the technology (e.g., develop a walkthrough)	1 2 3 4 5
	Variable assessment types (e.g., poll or multiple-choice for either formative or summative use)	1 2 3 4 5
	Reviewability (e.g., if assessable: grades can be seen, reviewed, and/or resubmitted by students)	1 2 3 4 5
<b><i>Usability</i></b>	Provides a learning shift (e.g., creates multi-modal learning, meets set standards; provides completion of competency pathways)	1 2 3 4 5
	Improves on past learning experiences (e.g., easier distribution or revision of content)	1 2 3 4 5
	Usefulness (e.g., provides formative/summative assessment; can be utilized for revision, homework, skills targeting)	1 2 3 4 5
	Distinctive, provides something old in a new way (e.g., polls students instantly with anonymity)	1 2 3 4 5

	Suitable for	in-class work	1 2 3 4 5
		out-of-class work	1 2 3 4 5
		individual work pair work	1 2 3 4 5
		group work	1 2 3 4 5
		with accompanying handouts	1 2 3 4 5
		alongside other technologies (phone/website/etc)	
<b>Resources</b>		Community of content (e.g., a range of resources exist that can be adapted or used as-is)	1 2 3 4 5

Ratings: 1 Poor 2 Fair 3 Average 4 Good 5 Excellent

<b>Technology Integration Evaluation Rubric – conceptual model</b>			
<b>Construct</b>	<b>Criteria</b>	<b>Item</b>	<b>Example</b>
<b>Site/App</b>	<i>Purpose</i>	Is the app/site purpose clear?	Aligns with learning objectives presented in activities.
		Is the content in line with the purpose?	Content provides learning (e.g., communicative-based).
	<i>Teacher-fit</i>	Is the app/site compatible with your teaching style?	Matches the style of the teacher implementing the content.
	<i>Student-fit</i>	Is the app/site appropriate for use with the target learners?	Matches the style of learners.
<b>Content</b>	<i>Accuracy</i>	Is the information correct?	No spelling or grammar errors.
	<i>Currency</i>	Is the information up-to-date or timeless?	Topics and information from the last five years.
	<i>Adaptability</i>	Can the technology (or the content that it offers) be tailored to learning?	Applicability (can add content on demand; can rework content to a lesson; can utilize it to complete objectives or projects).
		Can the content be reused?	Suitable across different classes and students in the teaching and learning context; can be designed or modified once and used across classes/students.
	Can the content be shared?	Means to distribute content to all students, between students, to other stakeholders (including students' output), content locked to a single student/class.	
<b>Evaluation</b>	<i>Professional development</i>	Can instructor use of the app/site be assessed?	Useful for action research, improving teaching skills.
		Am I able to teach others how to employ this effectively	Develop a walkthrough.
	<i>Assessment suitability</i>	Can the app/site be used for formative/summative assessment?	Provides a range of assessment choices for learners/instructors (e.g. poll, multiple choice).
		Can grades be reviewed/resubmitted?	Allows students to redo work and resubmit before final grading.
<b>Usability</b>	<i>Significance</i>	How is the technology important?	Shifts learning (e.g., provides multi-modal learning; meets set standards; provides completion of competency pathways)
	<i>Adds value</i>	How is using the technology adding value?	Improves on past experience (e.g., easier distribution or revision of content).
	<i>Usefulness</i>	How is the technology useful to apply?	Means of use (e.g., provides formative/summative assessment; can be

			utilized for revision, homework, or skills targeting).
	<i>Uniqueness</i>	How is the technology providing something special?	Provides something old in a new or unique manner (e.g., polls students with anonymity with instant results)
	<i>Deployment</i>	How is the technology best utilized?	Context of use (e.g., in- or out-of-class, individual, pair, or group work; smartphone, website, printouts).
<b>Resources</b>	<i>Existing content</i>	Does teacher-developed content already exist?	Community of content (e.g., a range of resources exists that can be adapted or used as-is to meet current needs).
<b>Format</b>	<i>Checklist</i>	What scale or means will be used for rating the applicability/value of items?	Likert scale (e.g. questions can be scored from 1 to 5 to get a total percentage for the technology).

<b>Technology Integration Analysis and Evaluation – rubric blank template</b>			
<b>Construct</b>	<b>Criteria</b>	<b>Item</b>	<b>Example</b>
<b>Format</b>			

Complete the template sections as required, adding or deleting rows as appropriate.

## **LESSON PLAN FOR VIDEO/AUDIO CLASS: MAKING AND CANCELLING AN APPOINTMENT**

by **Asnawi Muslem**

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**Level:** Second year of senior high school

**Time:** 4x45 minutes (2 meetings)

**Aims:** Students are able to communicate in making, cancelling and responding an appointment

**Resources/ materials**

- a. Short video or audio clips and their transcript showing dialogue and using some expression in making and cancelling an appointment:  
<https://www.youtube.com/watch?v=KLayQyc-zfM> (5:56 mins)  
<https://www.youtube.com/watch?v=qWKW46wxAlc> (0:56 mins)  
<https://www.youtube.com/watch?v=aMrBrsujML0> (3:00 mins)  
<https://www.youtube.com/watch?v=G07V0aOmWTI> (3:29 mins)  
[https://www.youtube.com/watch?v=n8vDd\\_Wkg8M](https://www.youtube.com/watch?v=n8vDd_Wkg8M) (3:50 mins)  
<https://www.youtube.com/watch?v=f7Kx8fcejzg> (2:50 mins)  
<https://www.youtube.com/watch?v=uyCXPaczZ7A> (3:27 mins)
- b. Some expressions used in making an appointment such as “I was wondering if you’d like to go out to dinner on Thursday?”, “I was wondering if you’d like to go to the circus?” and “Are you free on Saturday night?”
- c. Some expressions used in cancelling an appointment such as “Would you mind to reschedule our appointment in the night? I have a touch of a crisis that I have to deal with.”
- d. Laptop, LCD Projector and loudspeaker

**Possible problems:** The LCD projector and laptop do not match or the video clips do not appear on a good view on the screen.

**Procedure**

<b>PRE-STAGE (12 MINUTES)</b>	
<b>Learning Models</b>	<b>Learning Activities</b>
Greetings	<p>The teacher greets students and asks their conditions to ensure they are ready to learn.</p> <p>Teacher: Good morning my students, how are you today? I hope you are all fine.</p> <p>Students: Good morning teacher, we are fine, thank you, and you?</p> <p>Teacher: I am good, thank you, what about you Ali, you look sad today, any problem?</p> <p>Ali: Oh yes, sir, no problem</p>
Praying	<p>Teacher and students pray together. The teacher prays to be able to educate students professionally. The teacher also guides students to pray. Students pray to be able to participate in learning with full concentration, understand teaching materials correctly and be able to use their knowledge for the benefit of society in the future.</p>
Icebreaking	<p>The teacher connects the experiences or material that students have learned with material that will be taught to students. The teacher repeats a little of the previous material and ensures that students are ready to learn new material.</p>
<b>WHILE-STAGE (70 MINUTES)</b>	
Stimulation	<p>Literacy</p> <p>The teacher activates students' motivation and stimulation by reviewing the videos about making and canceling an appointment that they have watched out of the class.</p>
Problem Statement	<p>Critical Thinking</p> <p>The teacher asks students in turn to perform the dialogue about making and canceling an appointment in pairs in front of the class. The teacher records the students' performance in video format. Other groups of students and teachers observe their performance, take notes, comment and ask questions related to students' performance.</p>

Data collection	<p>Literacy</p> <p>Students gather relevant information to answer the questions that have been submitted by playing back the students' video performance and making and canceling an appointment videos, reading text books and other relevant reading sources.</p>
Data processing	<p>Collaboration and Critical Thinking</p> <p>Students in groups discuss and process information that has been collected to answer questions that have been asked.</p>
Verification	<p>Critical Thinking and Literacy</p> <p>Students verify the answer by referring to students' video performance, making and canceling an appointment video, textbooks and other relevant reading sources. The teacher also verifies students' answer by giving comments and clarification of students' answer.</p>
Generalization	<p>Drawing conclusion</p> <p>Students make conclusions based on what they have learn about making and cancelling an appointment.</p>
<b>POST-STAGE (8 MINUTES)</b>	
Summarizing	<p>Students noted important things that appeared in the learning activities of making and canceling an appointment material that had just been done.</p>
Recommendation	<p>Students schedule material or project assignments, products or portfolios that they must study or work on for the next time and the next meeting.</p>
<p><b>Note:</b> During the learning process, the teacher observes students' attitudes towards nationalism, discipline, self-confidence, honesty, resilience in dealing with problems, responsibilities, curiosity and empathy.</p>	



### Evaluation

The evaluation is to be done based on the following aspects:

No	Evaluation Aspects	Score			
		4	3	2	1
1	Pronunciation				
2	Accuracy				
3	Intonation				
4	Fluency				
5	Integration				
<b>Total</b>					

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