Teaching vocabulary in the process of Learning a Foreign Language using b-learning and m-learning in a Costa Rican public school.

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CHAPTER I

Introduction

1.1 Purpose of the Study

The learning of vocabulary is certainly a cumulative process and must be taught regularly, the vocabulary is presented, internalized and even recycled in new circumstances. This situation means that learners need to meet words in different contexts, because sometimes they need to face a word more than 10 times to be able to learn it. In addition, it is necessary for English learners to employ words in different ways, so it is essential to implement multiple environments and a variety of scenarios to teach new words. Another aspect to consider is that students often forget new words with ease, so it is very important to keep track of the words that are being studied in each lesson, and assign tasks that allow students to recycle words and find new functions for that vocabulary.

When students in our classrooms try to express themselves, they require a variety of skills that allow them to communicate in an appropriate way with acceptable fluency and efficiency. In order to achieve good communication, the speaker is trained in the high school to read and write, as well as listen and speak. The difference between these skills associated with each other is that for oral communication vocabulary must be handled on the fly because there is no additional time to search for word meanings, either to understand the message and to communicate ideas in a conversation.

This project aims to use state-of-the-art technology to improve vocabulary teaching as a fundamental complement for students to acquire and expand their vocabulary in order to improve their ability to express themselves orally in previously prepared exhibitions, as well as in the immersion of everyday conversations in English.

Every individual uses in their habitual daily communication a certain number of words being this their personal lexicon. There are different points of view as to the number of words

that a second language speaker needs to use, as a reference, ”academics believe that with 1,000 high-frequency words you should be able to understand about 72 per cent of a written text, so it’s an important first hurdle in breaking through communication barriers internationally” (Tinsley, 2013), this being the minimum essential amount of words for a successful communication. What is clear is that the more words are known, the more words are used, and therefore our ability to communicate will be better.

When students try to express themselves, they are limited by the vocabulary they know how to use, and this can lead to the idea that what they try to express is not transmitted correctly, it can even happen that the receiver of the message interprets a different idea than the sender tried to communicate.

This research is carried out in response to the need to approach vocabulary teaching in a Costa Rican public high school. This project will present strategies and activities that promote learning vocabulary using b-learning, e-learning and m-learning tools and strategies. Although language has many aspects necessary for good communication, this project focuses only on vocabulary teaching to facilitate learners to express themselves correctly with acceptable fluency. Another important aspect to consider is that teens often like to use technology in almost every field of their lives, for that reason it would be done by using specific mobile learning technology currently available at high school and under students’ possession.

1.2 Objectives

1.2.1 General objective:

a) To implement m-learning and b-learning tools through the use of technology in order to improve students' vocabulary in English as a Foreign Language teaching and learning.

1.2.2 Specific objectives:

a) Develop activities through the use of specific m-learning and b-learning technology tools in order to engage students to learn English language vocabulary.

b) Apply the activities previously developed in order to guide students through the English-language-vocabulary-learning process.

c) Determine the effectiveness of the activities and tools implemented in order to improve vocabulary learning.

1.3 Research Question

The evaluation of the above-mentioned aspects leads to the following interrogatives as a generating question in concordance to the goals of this research:

Do current mobile technology devices properly work for English language vocabulary teaching in Costa Rican public high schools?

Is b-learning good for students to monitor their progress and receive a feedback from the teacher?

Is it possible to use WhatsApp for the purpose of learning English Vocabulary when teaching through b-learning?

Are digital natives ready to use a virtual learning environment and mobile learning to support their learning process?

Do mobile learning motivate students to learn new English language words?

1.4 Definition of terms

Digital media: Digital media are any media that are encoded in machine-readable formats. Digital media can be created, viewed, distributed, modified and preserved on digital electronics devices.

Virtual campus: it is the online offerings of a college or university where college work is completed either partially or wholly online, often with the assistance of the teacher, professor, or teaching assistant.

E-learning: it is learning utilizing electronic technologies to access educational curriculum outside of a traditional classroom. In most cases, it refers to a course, program or degree delivered completely online. It is the study procedure that allows the use of the network or the internet for teaching and learning. It uses email, chat, blogs, educational platforms, etc.

B-learning: it stands for Blended Learning and it refers to the combination of face-to-face training (with teachers in a classroom) and online education (courses over the Internet or on other digital formats).

M-learning: it is the most modern mode and the one that is in vogue because it depends on mobile devices for teaching and learning; You can use smartphones, iPods, iPads, tablets, GPS, among others.

U-learning: it is the strategy that takes advantage of any electronic device (television, radio, videobeam, etc.) for teaching-learning.

VLE: Virtual Learning Environment is a set of virtual tools used for the purpose of learning.

LMS (Learning Management System): it is a web based learning system created with the purpose of facilitate virtual learning and its processes.

1.5 Significance of the study

This study could benefit society considering that learning English is of the utmost importance for Costa Ricans, and because vocabulary is a very significant element in learning a second language. The big necessity for English speaking people in Costa Rica has created an emphasis on learning this language. Consequently, high schools can benefit from this research because it is focused on learning vocabulary using technology, especially mobile devices which are becoming more and more common in Costa Rican high schools.

Education managers may notice that the investment in technology will be an important aspect in the learning process. Also, they can find this research particularly useful to decide about proper technology to invest in.

For researchers, this study may help to comprehend the areas they could focus when exploring about mobile technology in Costa Rican education system.

Therefore, a mobile-technology English-vocabulary-instruction approach starts to cast in Costa Rican public education system framework. Finally, further research can continue to refine how to approach mobile technology as an important b-learning tool for the instruction of English vocabulary.

CHAPTER II

Review of the Literature

2.1Theories that make up this research

Since this research is meant to find strategies to improve vocabulary using technology; methodologies of different fields should be considered.

This research gravitates on Connectivism because it is based on the digital age and collaborative learning together with Constructivism in which learning by doing is important to generate knowledge. Because this study is focused on learning vocabulary, Lexical Approach is used for that purpose.

To integrate those theories together and make it work, it is necessary to set a Virtual Learning Environment (VLE) using the b-learning and m-learning. To achieve this goal, a Learning Management System called Moodle is used together with PACIE model to manage the m-learning strategies that support traditional classroom teaching through b-learning.

2.1.1 Lexical approach

Essentially, lexical approach aims to help students learn vocabulary. “This movement away from a grammar-based syllabus largely began in 1993 with the publication of “The Lexical Approach” by Michael Lewis” (Lackman, 2011). For a long time in Costa Rica English curriculum has been based on learning grammatical rules. This methodology emphasizes the acquisition of useful vocabulary in order to favor the use of structures that are commonly found in the language being studied. These structures are known as chunks.

Since this theory is based on recognizing these small structures of language, the main skill that must be developed in students is that they can recognize them both in written language and in spoken language, this in order to understand the frequent use of it is given and later used in different situations. Lankma (2011) agrees that using the Lexical Approach requires the investigation of spoken and written language in order to notice structures which

are often ignored because they do not fall into the categories determined by the traditional understanding of grammar. Outlining the form of these structures, helps students acquire and use the structures and trains them to recognize other ones. For teachers it is of great importance that there is certainty about which of these fragments really form common patterns in the language.

2.1.2 Constructivism and the role of students

Without going deeply into the theory of constructivism, the main importance aspect of this method for this research, lies in the fact that students are not only responsible for solving practices or following the instructions of the teacher, but also must build material that can be used by their peers, either individually or collectively. Also, students actively participate in work groups to perform activities in which they must produce certain types of digital materials as part of cooperative learning.

In a research conducted by Yingyu Lin, The Acquisition of Words' Meaning Based on Constructivism from the School of Arts and Law, Dalian University of Technology, in Dalian, China in 2015, Lin states that "Constructivism emphasizes the importance of what the learner to any learning situation as an active meaning-maker and problem-solver. The learners play the central role in classroom teaching." (Lin, 2015). Since students are meant to create vocabulary learning material, they also create meaning and solve problems by finding ways to use the proper tools, also.

Once the chunks have been learned, students will be able to identify them easily, either in texts or in spoken language. Once they have been identified, they can use them in similar situations. However, over time students acquire the ability to adapt and use them in situations different from the conditions in which they were initially learned. This according to

Piaget obeys the process of assimilation by which "incoming information is changed or modified in our minds so that we can fit it in with what we already know (Piaget, 1972).

However, in the research above cited, Yingyu Lin (2015) also mentions that "collocations, typical of particular items, are another factor that makes a particular combination sound 'right' or 'wrong' in a given context. So this is another piece of information about a new item which it may be worth teaching." That lead us to a problem, since words that use for this study, like "do" and "make", have similar meaning in different contexts, and when assimilation occurs, according to Piaget (1972), students may start using the wrong expression in situations that relatively have the same meaning of words "do" and "make". For example, the expression "It doesn't do sense" instead of "It doesn't make sense" or "Come good away!" instead of "come right away!", since good and right can perhaps be synonyms. For that reason, the Lexical Approach play a big roll in learning vocabulary with the use of chunks. Since some isolated words lack of precise meaning, collocations are more generous for student to avoid mistakes.

2.1.3 Connectivism to integrate the m-learning into the b-learning

According to Siemens (2005)

> "Connectivism is a model of learning that acknowledges the tectonic shifts in society where learning is no longer an internal, individualistic activity. How people work and function is altered when new tools are utilized. The field of education has been slow to recognize both the impact of new learning tools and the environmental changes in what it means to learn. Connectivism provides insight into learning skills and tasks needed for learners to flourish in a digital era."

In conjunction with constructivism, and in order to integrate this methodology into a modern communication environment, the principles of Connectivism come into play.

In a research called Connected Teaching And Learning: The Uses And Implications Of Connectivism In An Online Class conducted by John Barnett, Vance McPherson, and Rachel M. Sandieson at the Western University, Canada. The authors stated that

> "the most profound pedagogical implication of Connectivism is that retention of information is no longer important. What is important is the development of rich and powerful connections that are accessible quickly and easily whenever someone wants to use them. Learning becomes the critical recognition of connections that change the network itself, simultaneously adding new connections, potentially in the absence of an instructor or authority. (Barnett et all, 2013).

For this reason, even though, the first stages of this research are activities in which students have to learn some words, the consequent stages are meant for students to restate those expressions and use the learnt vocabulary in context related situations. They are taken to a process of recognizing chunks and use them in different situations. If students learn by heart the lexical chunks and expressions, they will not be able to stablish connections to extend the vocabulary forwards different contexts.

2.1.4 Integrating e-learning to create the VLE

All classroom designs keep a structure predefined by the teacher because the tutor is who carries the academic and pedagogical management in their class area, face-to-face, distance, blended or virtual. Similarly, in a virtual classroom we must set our own scheme. The best we can do is to maintain a proper structure. However, we can also adopt proven-to-work structures such as PACIE model, and give them a personal touch.

This research has great concordance with a study conducted on 2015 by Yesenia Cevallos-Villacrés, Mirna Meza-Herrera, Lorena Molina-Valdiviezo, Gabriela Torres-Flores and Guillermo Machado-Sotomayor; on the use of PACIE methodology to support academic performance in which they agree that " by adopting learning virtual tools is possible to: change or enhance curriculum", for the purpose of this study, a set of virtual tools were adopted to create the activities for a virtual classroom project called E-Vocab, that set of activities are not very useful in face-to-face classroom settings, since the need of mobile devices make it difficult to manage. To conduct this research a whole class was invited to take part of this study, the ones who accepted could take advantage of a set of activities that enhance the curriculum for users of the E-Vocab Virtual Classroom which was meant for those students only.

2.1.5 PACIE methodology as the b-learning management solution

PACIE stands from the Spanish acronyms that refer to the academic processes on which this methodology is based: Presence (Presencia), Scope (Alcance), Training (Capacitación), Interaction (Interacción), and E-learning (E-learning). (Cevallos et all, 2015)

PACIE is a methodology developed by the engineer Pedro Camacho, currently director of FATLA. He defines PACIE as an online work methodology through a Virtual Campus, which allows participants to manage the transition process in the best way possible, both in the conventional classroom processes as in learning management. Therefore, students benefit from the use Internet as an additional support to the didactic resources presently used in the class by the teachers. From this perspective, PACIE was strictly developed for Virtual Learning Environments, with the purpose of "making communication and collaboration tools

available, fostering the use of social software to enhance online interaction. (Cevallos et all, 2015).

2.1.6 The m-learning and its implication in b-learning

Doug Harward (2016) in relation to the ubiquity of learning libraries, mention that "with the influx of mobile devices and the demand for short, object-based content increasing, learning libraries have grown rapidly. This rapid growth means that learners have access to virtually any type of learning content they want any time they want it; on virtually any device they choose. All this technology available lead us to adopt the mobile learning as an opportunity to promote the students self-learning.

In 2016, RAHMANI Khaoula conducted a research about "The Importance of Using Mobile Technology in Improving Students' Vocabulary", the author found that "mobile learning can be considered as a facilitator way for EFL learners to be more interactive and then be more motivated. The use of mobile technology can be a very useful way for learners to improve their vocabulary acquisition". (Khaoula, 2016). That is particularly important for the purpose of this research because this project aims to motivate students to learn vocabulary by using mobile devices both in the classroom and at home through the E-Vocab virtual classroom which is meant to provide students with activities that they can do at home using their mobile devices.

Mobile learning is defined as "learning by means of wireless technological device that can be pocketed and utilized wherever the learner's device is able to receive unbroken transmission signals." (Oller, 2012). By April 2018 in Costa Rica, mobile learning is a real possibility for the public education system, since mobile devices have become much more affordable because the price of mobile phones and tablets has dropped considerably. "One of m-learning's most significant innovations has to do with the ownership of personal learning

devices." (Parsons, 2014). This let students to personalize their learning experience and decide the precise moment to access the course material and activities.

2.1.7 Technology tools management for the teaching process in this research

For this research, the Moodle LMS is been implemented to manage the blended teaching/learning processes. "There is a common approach to m-learning that is based on the mobilization of existing e-learning systems, particularly learning management systems (LMS). (Parsons, 2014). Since Moodle was meant for internet browsers, the mentioned mobilization of the system to the mobile devices is a must.

An article called Introducing Educational Technologies to Teachers: Experience Report, published by Journal of University Teaching & Learning Practice conducted by Neena Thota, and Joao G M Negreiros, University of Saint Joseph, supports the decision of using Moodle as the Learning Management System for the development of the E-Vocab Virtual Classroom project created especially for the purpose of conducting this research. They mention that all course material was made available on Moodle, an open-source learning-management system. Moodle has gained popularity among higher-education establishments for hosting a variety of learning activities such as discussion forums, electronic journal writing, adaptive quizzes, collaborative wikis and workshops for peer evaluation (Cole 2005).

2.1.8 The use of WhatsApp in English vocabulary teaching

A recent research conducted by Sanaz Jafari1 & Azizeh Chalak in 2016, in relation to the use of WhatsApp in teaching vocabulary, reveals that "using WhatsApp had significantly affected the vocabulary knowledge of the students". In this research WhatsApp application plays a very important role. It was chosen as part of this project for its versatility to fulfill the following strategies in the learning process conducted under the b-learning model:

- Promote the use of English by students from home.
- Use vocabulary studied in class.
- Share interaction activities where students use the learned vocabulary.
- Support students to achieve the activities that are in the E-Vocab virtual classroom.
- Connect students through a group in which they can share knowledge and support each other.

2.1.9 The role of mobile applications

According to Robert Marzano (2004) “learning academic terms and phrases doesn't have to be boring” the author also states that “learning new words should be exciting and fun”. And that “It is important to start looking at digital ways to expand students' vocabulary”. Such statement is very important for this research since a set of mobile applications are used to create and perform learning activities to motivate *students along the application of this project*. A research about the creation of a “Learning Environment for English Vocabulary Using Quick Response Codes” conducted by Yuksel Deniz Arikana in 2013, states that “mobile, wireless, and sensor technologies have been gradually integrated into educational activities, which has led to the establishment of learning environments that include high mobility and context awareness.” (Arikana, 2015). For this projects, mobile devices are used for students’ interaction and evaluation. Mobile technology together with the right applications can really expand the teaching/learning possibilities. The only remaining part is our creativity and mastering of those tools.

In order to conduct this research, a set of applications should be used, that will be explained in the following chapter.

What need to be done is to integrate this tools into a Virtual Learning Environment that control the virtual part of the process. Also, it is necessary to set a procedure to guide the participants along the course progression.

In this research the importance of word knowledge is essential to develop elaborated word knowledge. According to Julie Stern , Nathalie Lauriault and Krista Ferraro (2017), when we think about almost any word, specially one with complex or multiple meaning, we see how many ways are of learning that word. She also states that “the more associations we have with words and the more we understand the relationship among word, the better our comprehension when we read texts that use that words”. Thath means that the more a student is exposed to certain vocabulary, the better their understanding of those words is, and this leads the person to a better use of them in written form.

In this research a strategy should be created to bring students the opportunity to learn new vocabulary through a set of activities. This process can be reached following the subsequent steps according to Marzano and Pickering (2005).

1. Explain: Provide a description, explanation, or example of the new term.
2. Restate: Ask students to restate the description, explanation, or example in their own words.
3. Engage: Engage students periodically in activities that help them add to their knowledge of the terms.
4. Discus: Periodically ask students to discuss the terms with one another.
5. Show: Ask students to construct a picture, pictograph, or symbolic representation of the term.
6. Play: Involve students periodically in games that enable them to play with terms.

In accordance to the above vocabulary learning, a set of activities will be developed to conduct the action part of this research.

Those activities will be implemented by using specific applications to gamify the learning process.

In the official site of the Ministerio de Educación Pública de Costa Rica there is a document published in 2017, named “Aprovechamiento de las tecnologías digitales como apoyo al aprendizaje” created by Ministerio de Educación Pública; Departamento de Investigación, Desarrollo e Implementación. The study is about the new resources that are trending among current generations of students and young teachers. That study is particularly important for this research because they explain ideas on how to use a set of mobile applications and cloud services for the learning process. In addition, a hosting package is necessary to manage the virtualization of the process.

2.2 Summary

Vocabulary is essential for learning and using a second language such as English. With the growth of technology, new ideas are combined with old methodologies to make learning funnier, diverse and motivating students to learn new words, phrases and other functional aspects for learning vocabulary to promote satisfactory communication.

In order to carry out this research, different aspects must be taken into account. Since the main object of study is the learning of new vocabulary, it is important to investigate about methodologies that allow the understanding and acquisition of vocabulary. Vocabulary as part of the learning of a language requires theories focused on learning words as well as pronunciation, spelling and meaning. For this purpose, the Lexical Approach will be used in conjunction with strategies that follow constructivism. In addition, these theories must be

compatible with educational methodologies that allow the integration of different strategies and activities in a technological environment. Therefore, the investigation of technological tools as administrators of the teaching/learning process should be explored correspondingly. In this case, the technology used will focus on e-learning, and adopting the branch of b-learning and m-learning through which strategies of face-to-face and virtual education are managed.

On the other hand, tools will be required to develop a virtual learning environment for which an e-learning platform is essential, this web system is necessary for implementing and managing the digital resources that are part of the learning process.

In addition, we must use a learning methodology that allows the union of these technological strategies with acquisition of vocabulary as part of the learning of English as a second language. In this case this research will rely on connectivism, a theory based on producing knowledge through information nodes formed by the different participants of a course and a collaborative environment between them. Since this methodology requires social interaction, a virtual learning model called PACIE is used.

PACIE methodology is predominantly important to develop a friendly well-structured virtual learning environment which will be used for the development of this research, more exactly for the action stage and the application of research tools. This model arises from the need to properly organize the learning process through virtual environments, allowing teachers to administer education through different tools that facilitate guided exposure of information, as well as monitor learning of students. Also, it promotes a collaborative environment where students learn through sharing, this is achieved gradually through the different modules of the virtual classroom course.

Finally, the software tools that best fit vocabulary instruction should be chosen. These tools will be used according to the Elaborated Word Knowledge model, which establishes 6 steps for which, according to the use of the technology, mobile devices and Internet connection are a must.

CHAPTER III

Procedures

3.1 Rationalization for qualitative research and quantitative research

3.1.1 Quantitative research

Quantitative methods emphasize objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques.

3.1.2 Qualitative research

Qualitative research is designed to reveal a target audience's range of behavior and the perceptions that drive it with reference to specific topics or issues. It uses in-depth studies of small groups of people to guide and support the construction of hypotheses. The results of qualitative research are descriptive rather than predictive.

This research is a mixed, since quantitative instruments are used and qualitative data is also analyzed.

3.2 Methodology – data collection tools

For the purpose of collecting data, one students' survey is used. It is about mobile technology use in classroom. Also, two quiz-games are used to collect data in relation to students' knowledge and to determine their learning at the end of the project. A formal invitation to be part of the b-learning project which collects important data about b-learning acceptance. Some pedagogical activities are part of the learning process and that will be analyzed from teacher's perspective.

The use of mobile technology in the learning process is not yet a paradigm in Costa Rican public education, and the use of b-learning is less paradigmatic yet.

Taking that in consideration, the first instrument is a document for parents and students, meant to explain the purpose of the study and the specifications of the projects. However, at the end of the document there is an invitation to be part of the E-Vocab project and the instructions to enroll the student by sending a specific WhatsApp message. See Appendix 1. The E-Vocab project is the integration of a VLE using Moodle LMS to manage students' activities and to keep record of their participation. Also, feedback can be managed using the Moodle LMS.

The second instrument is a survey for students about the use of mobile technology in English Classes at high school and their expectations for learning English vocabulary. See Appendix 2.

The third instrument is a quiz-game meant to discover the learners' previous knowledge in relation to the topic "Classroom Expressions", this game will be used during the action stage and at the end as a comparative learning instrument. All students from the class will be doing it with tablets. Questions can be seen in Appendix 3.

The fourth instrument is a quiz-game meant to discover learners' progress in the topic studied. This instrument will be applied to the whole class, since all of them have been instructed in the class with the same activities using mobile devices. This instrument will show how the E-Vocab virtual classroom is effective for students self-learning. See Appendix 4.

A complex instrument is used to conduct this research in relation to the action stage, this is a virtual learning environment composed by the Moodle LMS and a virtual classroom called E-Vocab.

3.2.1 The implementation virtual process

Most data collection tools mentioned above require a LMS to organize the process and application and the action stage. This research has some technical requirements in relation to the

virtual learning environment. A set of procedures should be driven to lead to the better implementation procedure possible.

The process is guided by the learning strategies according to the teacher style together with the virtual learning tools available. A set of web applications are used to administer those activities and guide the students through the process. Those application are: Moodle, Quizizz, Quizlet, Kahoot and Google Forms.

Most applications are intuitive and user friendly. However, the Virtual Learning Environment couldn't be managed without previews training, and the implementation of such application requires multiple web administration skills because it is necessary to set up domain names, hosting services, web software installation, and set up the VLE to create a virtual classroom. To conduct a project like this, it is necessary to have experience in e-learning platforms, e-learning tutoring and current mobile education technologies. For this project, the author had to take three parallel different trainings; one to expertise in E-Learning Platforms to accomplish the previous mentioned tasks; and two more trainings, one on Techno-Pedagogy and the other on tutoring e-learning and b-learning to manage the course itself. A total of three parallel trainings are required if the researcher does not have experience in E-learning platforms, e-learning tutoring and current mobile education technologies.

The process has a few steps to follow, those steps are required to set up the virtual classroom to guide students through the learning process and to apply some research tools. Also, the e-learning platform is particularly important to bring students a feedback and monitor their activity in the virtual classroom.

3.2.2 Requirements for the action part of the project

Some prerequisites should be ready before the teacher could begin with the action stage which manages very important tools for data collection.

3.2.2.1 Requirements for the regular classroom

An internet connection is needed. This connection should be able to supply enough speed for the quantity of students present in the classroom. For that reason, it is improper to define a connection speed. For this research a 12mb internet connection is used for approximately 30 students.

A set of tablets is optional to supply students that does not have a mobile device. For this research a set of 6 tablets is used. Students can bring their own device under parents' permission with no responsibility for the high school administration or the teacher.

3.2.2.2 Requirements at students' home

An internet connection is needed. This connection is required for students to make some homework that is assigned in the virtual classroom.

A mobile device is also needed, because students should be able to access and perform the activities which are related to the topic studied in class. It may be a smartphone or a tablet.

3.2.3 The VLE for students' access.

A domain name should be registered. For this research www.aulasvirtualescr.com is used.

A hosting service is required to host the VLE. A basic hosting package was bought to GoDaddy hosting company.

A web site should be setup. A Learning Management System called Moodle is installed to manage the front page of the web site and the VLE. Appendix 5 shows the front page of the VLE.

A virtual course should be created to manage the learning activities and the research tools. A course is made as a complement for the topics being studied in face-to-face classes leading the teaching-learning process through a b-learning model combined with m-learning. The following is the process that should be carried before the beginning of the b-learning experience.

a) Domain name registration: this is the starting point; students use it to access the VLE. The domain registered is www.aulasvirtualescr.com.
b) Buy a hosting package: this service is required to host the web site together with the VLE and all the media required to set up virtual courses. This service includes web hosting, accessing speed and data transfer.
c) Install a LMS: it is needed to set up the VLE and to create the virtual classroom. The control panel of the hosting service helps to install Moodle LMS. It is used to administrate the learning tools and monitor students' actions in the VLE.
d) Create a Virtual Classroom: This is the section of the VLE in which the course is created to support the face-to-face teaching-learning process with e-learning tools. The PACIE model is used to organize the different sections. All activities should be set up here including the ones used in the regular classroom. The virtual classroom for this research is called E-Vocab. See appendix 6.
e) Create activities: Under the action section of the virtual classroom, all activities for the action stage should be included. At the end, in the closing block some research tools can be included to gather information about the students' experience and their opinions about

the course. Multiple on-line resources were used to create the activities and data collection tools.

3.2.4 Use of PACIE model to design the virtual classroom

The teacher decides about the regular classroom settings according to their experience and liking. A virtual classroom is created under the same awareness and it sets up according to the teacher preferences. However, there is a model called PACIE for virtual classrooms which is used for this research. This methodology states a minimum of three blocks: the PACIE block or block zero, the academic block and the closing block. Each block has its own functions to properly guide students in their e-learning experience. Focused on this research the functions are mentioned bellow.

The first is the PACIE Block or zero block and have the following resources:

a. Information about the E-Vocab project is explained.
b. Guide students to use the virtual classroom
c. Generate interaction among students using a forum or chat rooms

The second is the Academic Block and includes:

a. Content exposition: this is used to manage activities in the regular classroom.
b. Self-assessment activities that let students play and learn using different on-line activities embedded in the virtual classroom.
c. Knowledge construction: students are asked to create and deliver homework or to participate in the forums and chats using the vocabulary being studied.

d. Topic evaluation is the part where students are required to do some activities for the purpose of assessment.

The third is the Closing Block and it includes:

a. Course closing brings opportunity to students to finish pending activities. Also some alternative activities are included.
b. Students monitoring and feedback: this resource is meant to feedback students about their achievements, grades and information that the teacher thinks it is important to include.
c. Course feedback and course evaluation is one of the most important parts because students' opinion about the author and the course is collected. This is particularly needed to analyses the success of the process and to prepare a new research cycle.

Even though the E-Vocab virtual classroom is a data collection tool itself, it is important to mention that some specific research tools were included among the learning activities to gather information about the process, such as the quiz-games and surveys.

3.3 Site and participants

This research is developed in a public high school. This research is conducted in one group with thirty-one students initially implicated. All of them belong to the same class and they are on 7th grade in the Costa Rica's education system in 2018. The author of this research is a 12 years experienced English teacher.

3.4 The plan of the study data analysis procedures

The first instrument used to inform parent and students about this study will be analyzed by the quantity of students that enrolled in the E-Vocab virtual classroom.

The data collected from students will be analyzed through one survey. See appendix 2. After they have completed the survey, results will be confronted to the main questions to get to results.

The quiz-games (Apendix 3) played by all the students will be analyzed by determining the percentage of accuracy, results will show if the use of mobile devices in the class helped students clarify the meaning of those expressions.

The quiz-game (Apendix 4) played by students will be analyzed by determining the accuracy of student to define the difference in learning between students enrolled in the virtual learning environment and students learning through face-to-face classes only.

3.5 Summary

In order to carry out this research, 4 research tools are used, one enrolment invitation, one survey for students and two quiz-games will be used to determine accuracy of vocabulary learned by students.

On the other hand, the pedagogical procedures for the E-Vocab enrolled students are managed by a model known as b-learning, in which the students will take vocabulary evaluations during the different controlled sessions. In addition, face-to-face and virtual pedagogical activities are applied, in order to carry out a short learning process that allows assessing whether the implementation of these strategies was adequate and to what extent it allows progress in the process of learning English vocabulary.

CHAPTER IV

Findings

4.1 Data analysis

A set of instruments where used to collect data. An analysis of those instruments is presented below.

4.1.1 Data analysis of the students' invitation and the enrolment process through WhatsApp. See Appendix 1.

Figure below demonstrates students' enrollment behavior. All 31 students were invited.

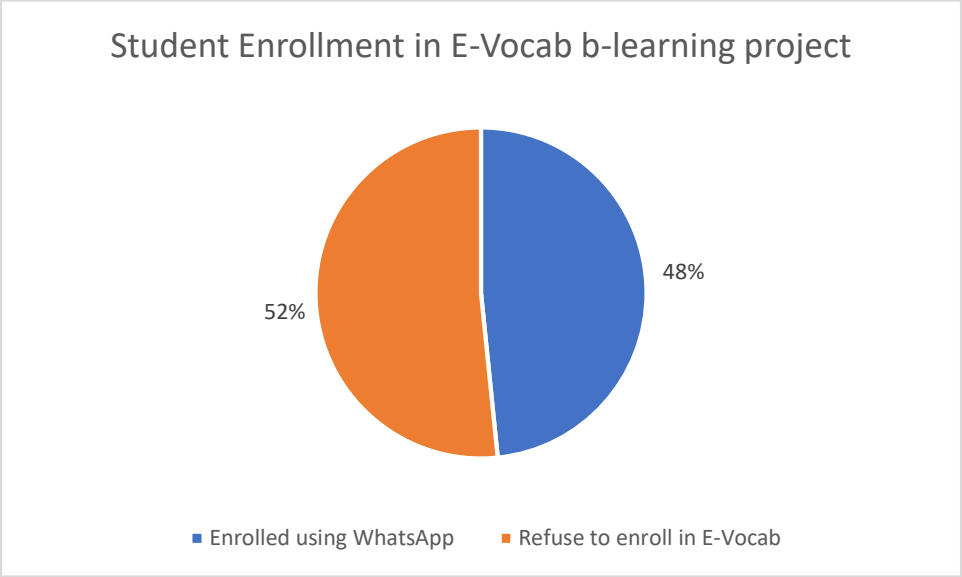


Figure 1. Student final enrolment

The above figure shows that 48% of students decided to enroll in the E-Vocab virtual classroom that supports face-to-face learning. The other 52% did not want to participate or their parents did not give the permission. For the purpose of this study, the not enrolled 52% of students are part of the control group since they belong to the same group.

4.1.2 Analysis of the survey for participants of the E-Vocab project about the use of mobile technology for vocabulary learning. See Appendix 2.

There were two students enrolled in the E-Vocab virtual classroom who quit before the beginning, so the sample were reduced to thirteen active participants and the control group increase to eighteen students.

The following analysis is based on thirteen active participants of the E-Vocab project.

Figure below demonstrates students' feelings about the use of mobile technology for learning vocabulary before 2018.

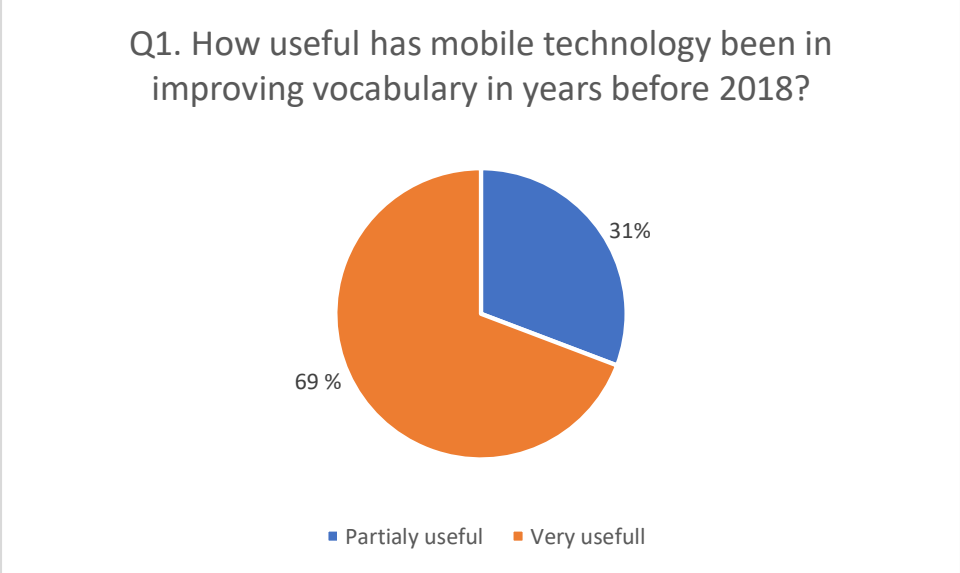


Figure 2. Question number 1.

All students think that mobile technology helped in some way to improve vocabulary in the past year. In this case, they already know that they can benefit from using mobile technology to improve vocabulary. None of them thinks that it is not useful.

Figure below shows students' opinion about the ease of use of mobile devices. This graphic shows the result of multiple options.

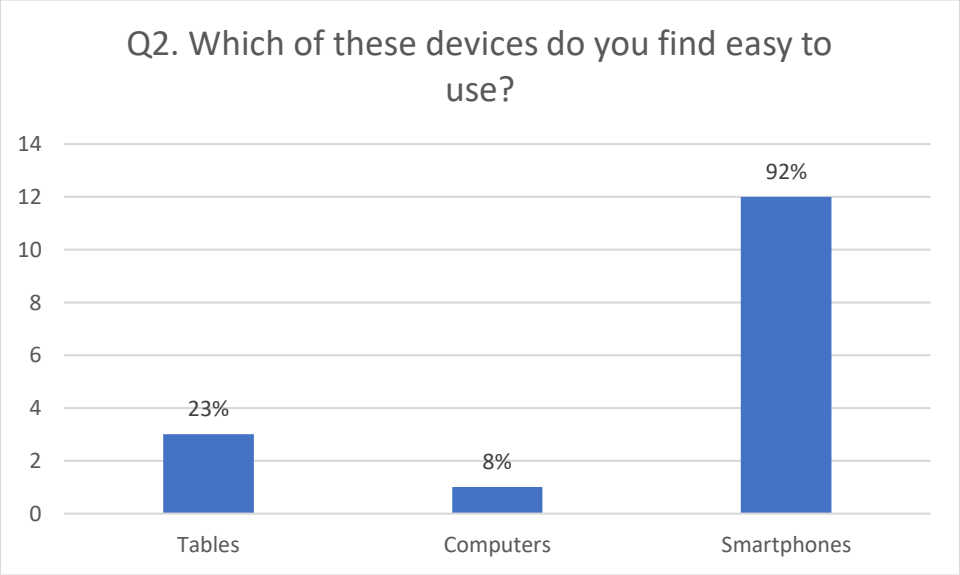


Figure 3. Question number 2.

The graphic shows that most students, the 92%, find smartphones easy to use, only 23% of students find tablets the same way. Only one student thinks that use computers is easy representing the 8% of them. This is an important finding since tablets and smartphones are the most used devices in mobile learning. None of the students found smartwatches easy to use, even though, it was included in the survey.

Figure below shows mobile devices that students have used in class. This is a multiple options graphic.

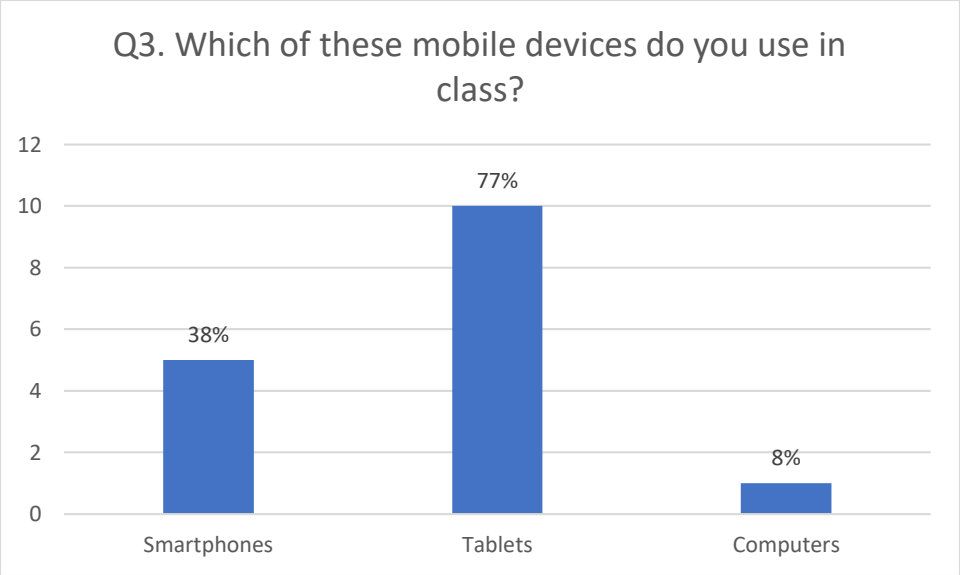


Figure 4. Question number 3.

According to 77% of students the mobile devices that students use more in class are tablets, 38% students have used smartphones. This means that m-learning is a real possibility since most of the students already know how to use tablets and smartphones for the teaching/learning process. None of the students used smartwatches in class ever, it was included in the survey also.

The following figure shows how frequently students would like to use mobile technology in class.

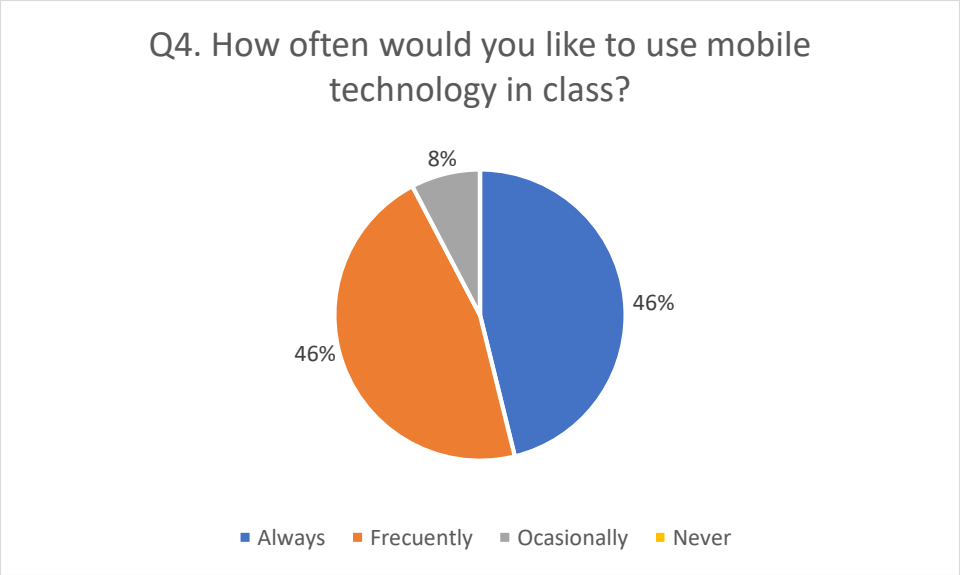


Figure 5. Question number 4.

The graphic shows that 46% of the students want to use mobile technology always, and another 46% want it to be used frequently. However, one student prefers to use it occasionally. That means that most students want to use it with high frequency.

The following figure shows the students' opinion about whether mobile technology can improve vocabulary in English.

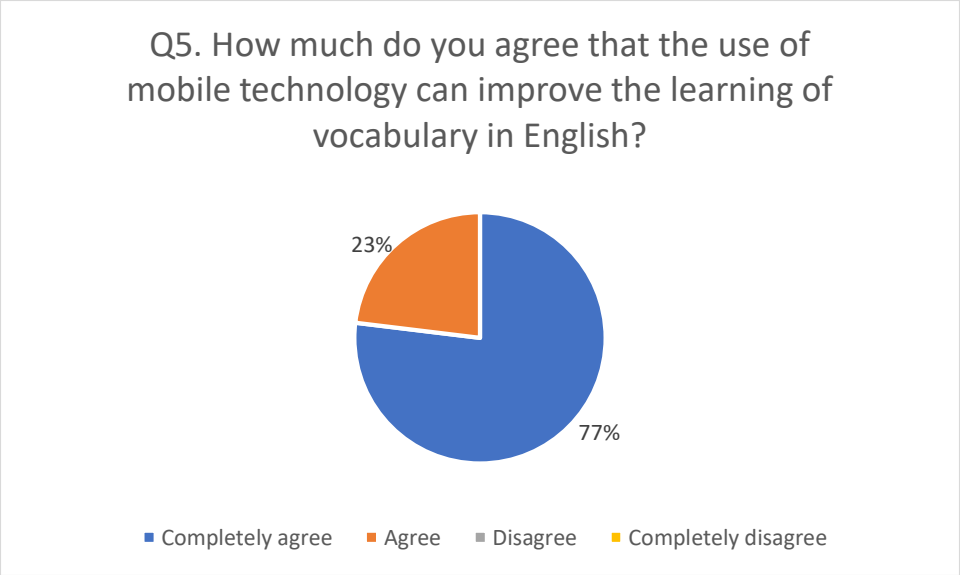


Figure 6. Question number 5.

According to the information in the graph, all students agree that the technology could improve vocabulary in English. However, 77% of them feel more confident than the other 23%, since they completely agree.

The question number six refers to students' opinion about how effective is the use of mobile technology as a learning method. In this case, 100% students agree that mobile technology is an effective way to learn.

The following figure is a multiple options graphic that shows how mobile technology is used in the English class.

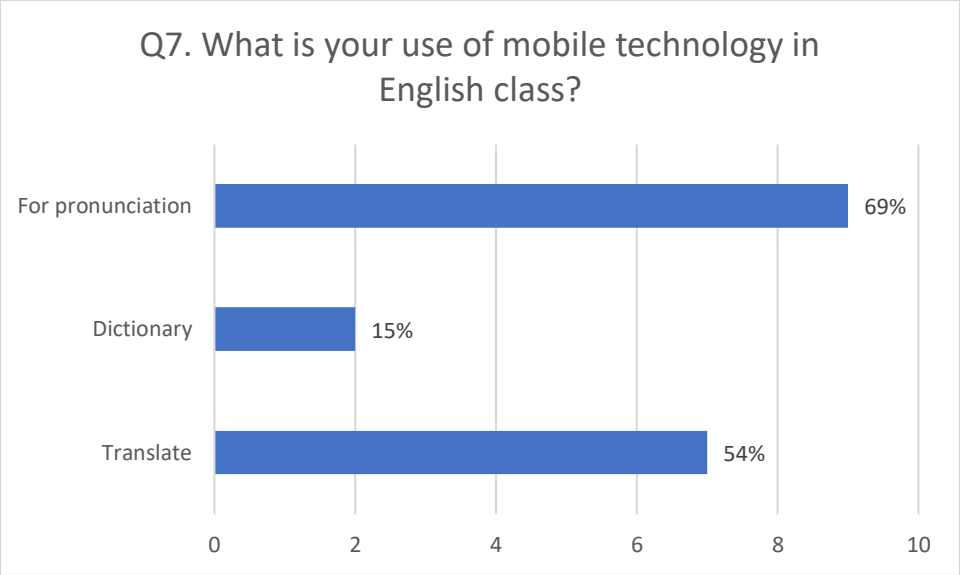


Figure 8. Question number 7.

In this case, 69% of students indicate that technology helps them to help with pronunciation, 15% use it as a dictionary and 545 use it to translate.

The following figure shows students' opinions about mobile technology as a means to motivate interaction in the English language among students.

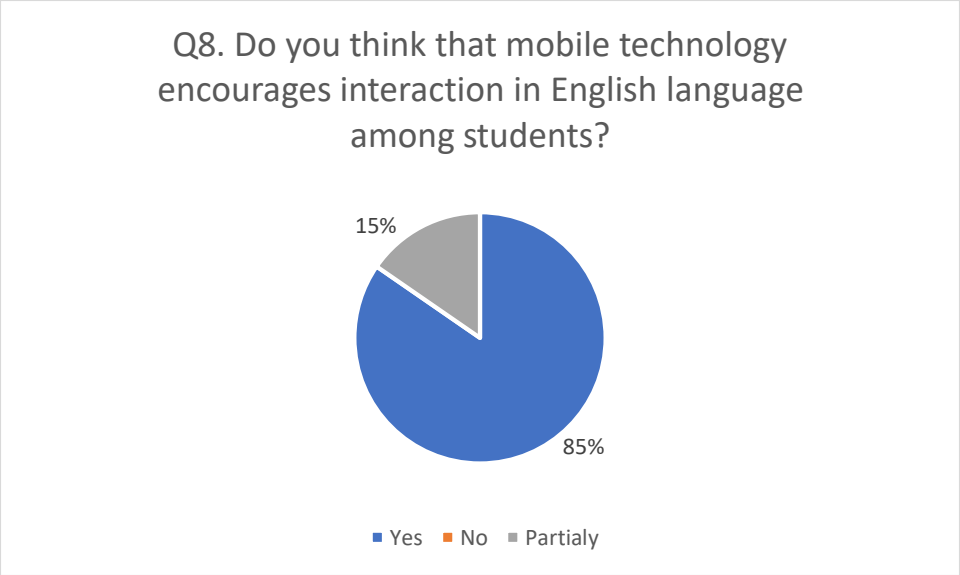


Figure 9. Question number 8.

The graph shows that all students believe that mobile technology motivates them to communicate in English, 85% are more confident on that assumption than the other 15%.

The following figure shows students' opinions about how useful mobile technology has been in improving their vocabulary in English.

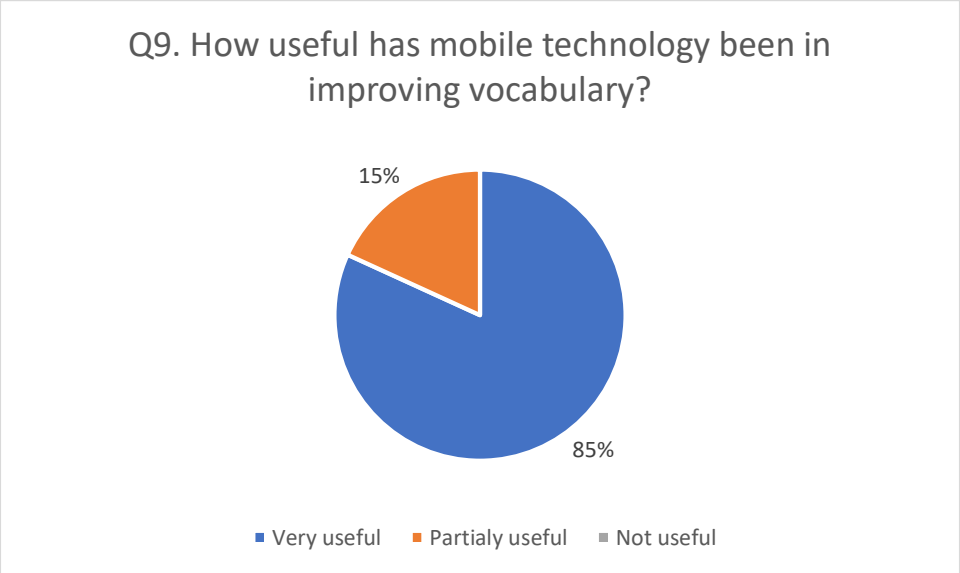
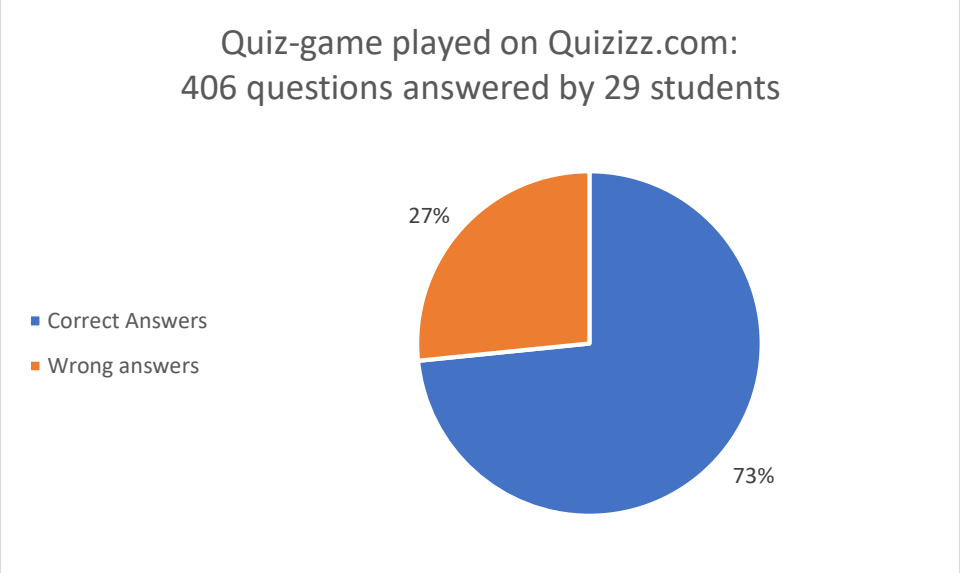


Figure 10. Question number 9.

All students think mobile technology is useful to improve vocabulary. In this case, 85% of students consider it very useful. However, 15% think it is partially useful. None of the students think that mobile technology is not useful for improving English vocabulary.

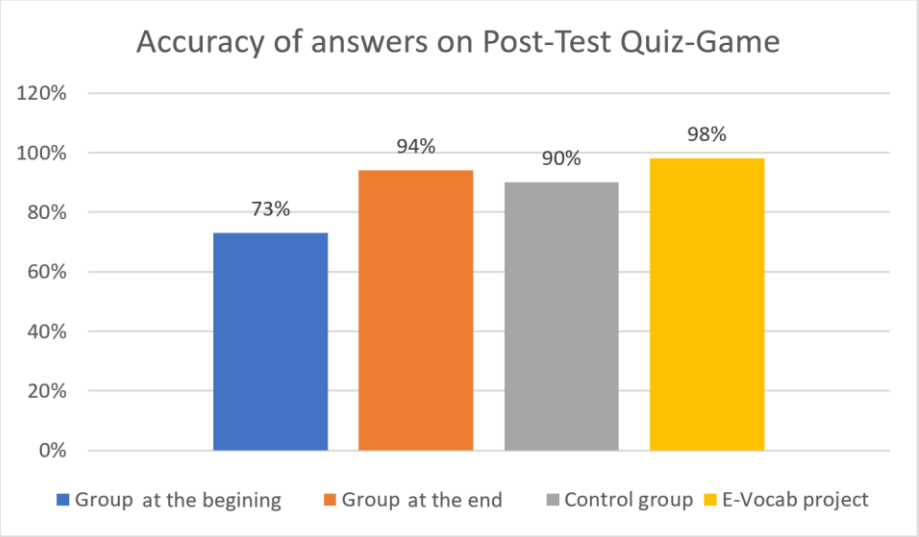
4.1.3 Analysis of the quiz-games used to evaluate accuracy in students' answers.

The following figure shows the result of a quiz-game that was played in the whole classroom as part of general evaluation. The objective of this game was to activate prior knowledge to all students. At the same time, the level of the students was revealed in relation to the vocabulary related to the topic studied for this research which was about classroom expressions. See Appendix 3.



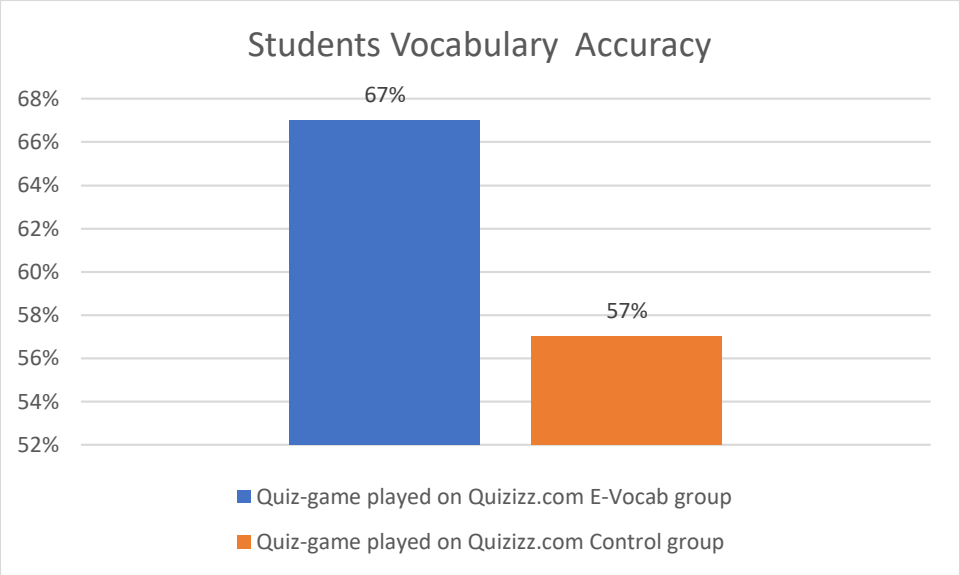
This questionnaire has 14 questions and it was answered by 29 students. A total of 406 questions were answered, around 73% were correctly and 27% were erroneous. The students showed an acceptable knowledge of the words. This test was applied to the whole class at the beginning of the project. This vocabulary was exposed for learning and subsequently evaluated.

The same quiz-game was applied at the end of the process in order to evaluate students learning of those words. The following figure is a multiple options graphic that show the results of the second try in comparison to the first application at the beginning of the project. See Appendix 3.



The first time the quiz was applied 73% of accuracy was registered. The second time it was played at the end of this stage, the average accuracy for the whole group is 94%. However, a more specific analysis throws interesting results. The students' accuracy for those that belong to the E-Vocab b-learning project was 98%. Students accuracy not enrolled who became the control group was 90%. In both segments students showed a great improvement in relation to the results of the first application of the quiz which was 73%.

The following figure shows the results of the last evaluation through a quiz-game, this was played in order to evaluate the accuracy in vocabulary identification using chunks, but with the use of contextualized expressions. There were no previously exposition of those expressions and pictures to students. However, each expression contains a chunk previously studied to be identified and matched with a picture. See Appendix 4.



The graph shows that the students belonging to the group enrolled in the E-Vocab project had a 67% accuracy in their answers, however the rest of the students who comprise the control group, only received face-to-face education in the classroom, obtained a 57% accuracy. A margin of 10% is revealed between both groups, which remain positive on the students who participated in the Virtual Learning Environment called E-Vocab. There is a negative factor present in the application of this tool which could influence the results, it will be analyzed in the corresponding sections of this report.

4.2 Restatement of questions and discussion of the results

From the moment the invitation was sent it was assumed that almost all the students wanted to enroll and that the parents would agree. However, at the time of receiving the enrollment requests, only 15 students made their request. Initially it was believed that a different group would be needed to apply the project within the b-learning model and that another class was required for the process of the control group. However, less than half of the students in the

class enrolled in the virtual classroom E-Vocab, so it was decided to use the remaining half of students as a control group for this research.

The use of WhatsApp application was not part of the research questions at the beginning of this research. However, with the implementation of the whole b-learning elements the need of an efficient communication tool arises. The Moodle modules for forums, chats and the private messages were supposed to fulfil the communication needs, but it required student training on the use of those specific tools. For that reason, WhatsApp is included for communication purposes, later on, it became a vocabulary learning tool for teacher-students and student-student interaction using English language.

The key tool used to evaluate chunks comprehension have a weak point that could influence the results. See appendix 4. The problem relays on the fact that the images used to identify the function of the chunks and vocabulary along the process were never exposed or explained prior to the application of the quiz. That could be a little confusing to students, because a student could have identified the correct meaning of the expression, but not the relationship with the corresponding image. It is difficult to determine how much could that affect accuracy.

4.3 Summary

The analysis of the information allows to determine that mobile technology is highly accepted by students and that they like it to be used in English classes more often. In addition, students show great acceptance towards this technology in order to be used to learn vocabulary in English. However, the enrollment of the e-learning working group registered less than half of the students, reflecting a resistance to the b-learning model.

Whit the analysis of the LMS data in the E-Vocab virtual classroom, the students' logs indicate that most of them access activities the same day they were published. That shows certain access periodicity and a good acceptance of this technology. Also, students' progress was monitored using this data logging system.

The carried out evaluations showed that the learning process, by means of which mobile technologies are used and the virtual learning environment, presented good results since the percentage of success of the group involved in the b-learning model was higher.

On the other hand, all students in the group showed better overall results. It should be noted that all the activities in the classroom were carried out using mobile technology.

SECTION 5

Discussion

5.1 Conclusion

One quiz was applied at the beginning of the process to all students in the regular class in relation to the vocabulary that would be studied later. This allowed to establish a starting parameter about the prior knowledge of the them. After applying the quiz again at the end of the process, a significant improvement was found, around 17% accuracy improvement on the students of the control group and about 25% accuracy in the students who decided to be part of the b-learning process using the E-Vocab virtual classroom.

The survey conducted to students provided important information about the motivation they feel when working with mobile technologies to complement face-to-face education. This is of great importance for this study because mobile technology along with b-learning are the master piece of this research.

The use of the virtual classroom provided a good organization to work throughout the project. However, the costs of acquiring a hosting service, a domain name and the installation of the Moodle platform make the use of this platform barely reasonable. However, for future investigation or production b-learning environments, those are important services that should be used, and that really justify the effort and expenses incurred.

Together with the creation of a virtual classroom, the PACIE methodology becomes an important part of it. It is important to evaluate PACIE model implementation since many of the activities could be organized directly from a WhatsApp group. However, it is essential to keep track of the activities that students perform all the way through the learning process.

The communication process through the Moodle virtual classroom is not as efficient as it is through WhatsApp, so Moodle private message module was not used. However, this tool

becomes really important if the communication is carried out through the VLE, and thus frees the teacher from the constant entry of WhatsApp messages coming from students. Training sessions on using the virtual classroom is recommended as part of the process.

The virtual platform was configured in Spanish in order to help students to better understand the use of it, since none of them knew how to use this type of learning systems. Students showed great ease in adopting the basic use of the platform, and this allowed the teacher to keep a very detailed record of the activities they carried out through it.

If it is implemented completely in English, students would have the opportunity to use the English language implicit in virtual activities.

The use of mobile technology was of paramount importance as well as a stable internet connection; six tablets were available at high school library, the author brought 4 more tablets within the classroom. Some student phones were used on a voluntary basis in order to perform the online learning activities that required mobile devices.

The Quizlet application was used in order to present the vocabulary and allow students to practice different types of learning activities, activities carried out in Quizlet could be used in the classroom as well as at students' home.

In addition, Kahoot was used to motivate students in the classroom and evaluate their overall performance. Quizziz played a key role in the research since it was used to evaluate the progress of the students and their final knowledge in a gamified environment.

The HP Reveal mobile application was used lightly during one class for students to experience augmented reality technology and possibly use it for future activities. However, it did not give very good results and the project did not include activities related to augmented reality.

The use of HP reveal is recommended if there are more tablets available so that students can work in pairs or by themselves, for this research only six to ten tablets were available. It is important to emphasize that students were very impressed by this technology despite the difficulties presented when trying to use it.

Although the activities that were carried out to work through the virtual classroom and WhatsApp gave good results, the workload suffered because of the creation of these resources is very high, in case of an everyday implementation that must be taken into account. It is important to mention that the resources developed to be used on-line can be reused in future courses without major modifications, so in the long term it becomes a good investment of time and effort.

The students showed a good learning of vocabulary through the activities executed using the virtual classroom. However, the difference between the control group and the E-Vocab participants did not exceed 10% in any of both evaluations. For this reason, it is concluded that the best contribution of mobile technology and e-learning for face-to-face education is the motivation of the students, since almost all students in the classroom were very motivated when activities related to m-learning were used within the class. In addition, it was discovered that the students who belonged to the E-Vocab group were attracted by the activities that were present inside the virtual classroom and they had better results in the evaluation.

5.2 Implications

Although the study was carried out successfully, some things did not happen as expected. For example, the number of students enrolled in the virtual course was lower than expected, it was anticipated a better willingness by students to adopt this b-learning technology.

On the other hand, the use of the virtual classroom also generated good results. The students did not have major problems to perform the activities requested through this. However, a better interaction between the students in the virtual education environment was expected, on the other hand, most of the interaction happened through the WhatsApp application, which was not intended to be used initially as part of the learning tools. However, its versatility and ease of use among students, allowed WhatsApp to be adopted for the accomplishment of some learning activities.

This study has some limitations. First of all, it was performed only in a group of thirty-one students, but only thirteen actively participated in the E-Vocab virtual classroom since two students dropped out after they agree to enroll. It happens that it is not a sufficient sample to determine that results are applicable to all levels of the high school. Neither to generalize throughout Costa Rican public education. For future research it is recommended to use all groups of the same level in order to obtain results from a more significant sample. Better yet, if the research can be conducted in different types of high schools along the country.

Another limitation is found in the use of the tools available in the virtual classroom, the amount of available resources is very high, but due to the fact that virtual learning environments are not part of Costa Rican high school education; students are not used to this kind of systems so it is recommended to dedicate some sessions to teach students on how to use the most important tools available within the virtual learning environment.

5.3 Concluding statement

The implementation of mobile technologies in order to learn the English language vocabulary is both possible and feasible. In this research it was discovered that some of the strategies used gave excellent results in order to learn vocabulary. However, it requires more

experimentation and new ideas that further benefit the learning of English language vocabulary. In addition, we cannot ignore that the students' motivation toward learning is our best ally, motivated students have a strong desire to learn, and together with the technological possibilities of m-learning and the adoption of b-learning students are able to complement knowledge beyond face-to-face regular class, they can access learning activities wherever they have an internet connection and a mobile device available.

Our role as teachers is not only to transmit our knowledge, but taking the student through learning and knowledge construction, the use of mobile technology as a complement to face-to-face education represents a great opportunity for teachers to guide students in the learning process in the classroom as well as self-learning at home. Also, the teacher facilitates the creation of networks where each student is a node that possesses pieces of knowledge to be shared through that network.

On the other hand, mobile technologies are changing every day, so it is very important for English teachers to be updated. Because our students belong to the digital age, they are extraordinary consumers of media content and mobile technology. Different mobile applications are created expanding learning possibilities. Teachers should not be left behind in this technological race in which students run some steps ahead of educators.

References

Arikana Y. (2016). A Learning Environment for English Vocabulary Using Quick Response Codes. Ege University, Turkey.

Baltodano et all (2017). Aprovechamiento de la tecnologías digitales como apoyo al aprendizaje. Miisterio de Educación Pública de Costa Rica.

Barnett, J., McPherson, V., & Sandieson, R. M. (2013). Connected teaching and learning: The uses and implications of connectivism in an online class. Australasian Journal of Educational Technology. Western University, Canada.

Cevallos et all (2015). PACIE Methodology Applied in Virtual Learning Environments to Support Learner Academic Performance. University of Chimborazo, Ecuador.

Ferraro et all (2017). Tools for Teaching Conceptual Understanding, Elementary: Harnessing Natural Curiosity for Learning That Transfers (Concept-Based Curriculum and Instruction Series) 1st Edition. Corwin.

Jafari S. & Chalak A. (2016). The Role of WhatsApp in Teaching Vocabulary to Iranian EFL Learners at Junior High School. Islamic Azad University, Iran.

Lackman. K. (2011). Lexical Approach Activities A Revolutionary Way of Teaching. Retrieved from http://kenlackman.com/files/LexicalActivitiesBook102.pdf

Marzano, R.J. (2004). Building background knowledge for academic achievement: Research on what works in schools. Virginia, U.S.

Marzano, R.J., & Pickering, D.J. (2005). Building academic vocabulary: Teacher's manual. Virginia, US.

Mc Carten J. (2007). Teaching Vocabulary Lessons from the Corpus, Lessons for the Classroom. Cambridge University Press, U.S.

Mc Quiggan, et.al. (2015). Mobile learning: A Handbook for Develops, Educations, and Learning. WILEY, U.S.

Oller, R (2012): The future of mobile learning. Marlboro college graduate school. Retrieved from http://net.educause.edu/ir/library/pdf/erb1204.pdf

Parsons D. (2014). The Future of Mobile Learning and Implications for Education and Training. UNITEC Institute of Technology, New Zealand.

Piaget, J. (1972). The principles of genetic epistemology. New York: Basis Books. U.S.

Seamens G. (2005) Connectivism: A Learning Theory for the Digital Age. Oxford University Press, U.S.

Sergio, F. (2012). 10 ways that mobile learning will revolutionize education. Retrieved from www.fastcodesign.com/1669896/10- ways-that-mobile-learning-will-revolutionize-education

Thota N. & Negreiros J. (2015). Introducing Educational Technologies to Teachers: Experience Report, Journal of University Teaching & Learning Practice. Retrieved from http://ro.uow.edu.au/jutlp/vol12/iss1/5/

Yingyu L. (2015). The Acquisition of Words' Meaning Based on Constructivism. School of Arts and Law, Dalian University of Technology, Dalian, China.

Annexes

APPENDIX 1: Letter sent to parents (invitation to the virtual classroom E-Vocab)

Departamento de Inglés
Consentimiento informado
Proyecto de investigación

Estimados estudiantes y padres de familia o encargados:

Les invitamos a formar parte del proyecto que se describe a continuación:

Título del proyecto: E-Vocab: *Enseñanza del vocabulario en el proceso de aprendizaje del idioma Inglés, utilizando las modalidades b-learning y m-learning.*

Como profesor estoy realizando una investigación sobre el tema anterior.

El propósito es investigar acerca del aprendizaje de vocabulario del idioma Inglés mediante la implementación del modelo de educación virtual mixta (b-Learning) y combinado con la propuesta de educación mediante dispositivos móviles (m-learning).
Para participar no existen requisitos especiales, únicamente formar parte de la sección y que el participante tenga acceso a internet entre 5 a 15 minutos 3 días a la semana aproximadamente.
Los temas forman parte de lo que se está estudiando en clase por lo que no se desviará la atención del participante a temas ajenos a los que se están viendo.
Si aceptan participar en este estudio, los estudiantes y encargados, se les pedirá completar encuestas virtuales cortas (a encargados y estudiantes) y formar parte de un grupo de WhatsApp exclusivo de esta investigación mediante el cual se comunicarán cosas importantes y se realizarán algunas actividades de aprendizaje, que formarán parte de este proyecto de educación virtual complementaria.
Su participación en esta investigación es voluntaria y puede retirarse en cualquier momento. No tiene que dar una razón para retirarse de la investigación y no habrá consecuencias negativas si decide retirarse.
Ningún dato personal será utilizado en el informe final. No se usará ninguna referencia a los nombres personales.
Soy la única persona que tendrá acceso a los datos recopilados para el proyecto.
No se requiere aportes económicos ni compras de equipo o servicios adicionales.

Consentimiento del participante:
Acepto que (nombre del estudiante) _____ participe en esta investigación.
Nombre del encargado legal: _____. Firma: _____
Este proyecto ha sido autorizado por la dirección

Muchas gracias por su apoyo. Si requiere más información, sírvase llamar a mi número telefónico (8931-9138).

Su apoyo en este proyecto es primordial para avanzar a paso firme en el uso de la tecnología para las clases de inglés.

Nombre del investigador:

_____
Andrey Francisco Loría Mayorga
Tel: 8931-9138

¡ÚNETE!

" INGLÉS Y TECNOLOGÍA SON EL FUTURO DE NUESTROS JÓVENES"

Si decidiste participar y tienes el permiso de tus padres o encargados, pídeles que envíen un mensaje al WhatsApp exclusivo de éste proyecto con el siguiente mensaje:

8736- 6020

Queremos formar parte del proyecto
Estudiante:
Encargado:
Invitanos al grupo E-Vocab 1:34 PM ✓

Appendix 2: Survey for students about the use of mobile technology

Survey for students about the use of mobile technology

Dear students

Thanks for your time and collaboration.

This study is directed by Andrey Francisco Loría Mayorga

The objective of the survey is to discover the possible benefit of mobile technology for vocabulary learning.
You must make sure you understand each question before selecting or writing the answer.
It is very important that you answer honestly.
The name or identification of any type is not requested.
The information is completely confidential and will be used only for the purposes of this investigation.

About mobile tecnology

1. **Q1. How useful has mobile technology been in improving vocabulary in years before 2018?**
   Mark only one oval.
   - ◯ Very useful
   - ◯ Partially useful
   - ◯ Not useful

2. **Q2. Which of these devices do you find easy to use?**
   Tick all that apply.
   - ☐ Smartphones
   - ☐ Computers
   - ☐ Tablets
   - ☐ Smartwatches

3. **Q3. Which of these mobile devices do you use in class?**
   Tick all that apply.
   - ☐ Smartphones
   - ☐ Computers
   - ☐ Tablets
   - ☐ Smartwatches

4. **Q4. How often would you like to use mobile technology in class?**
   Mark only one oval.
   - ◯ Always
   - ◯ Frecuently
   - ◯ Ocasionally
   - ◯ Never

5. **Q5. How much do you agree that the use of mobile technology can improve the learning of vocabulary in English?**
   Mark only one oval.
   - ◯ Completely agree
   - ◯ Agree
   - ◯ Disagree
   - ◯ Completely disagree

6. **Q6. You think that the use of mobile technology as a learning method is:**
Mark only one oval.

- ◯ Effective
- ◯ Something effective
- ◯ Nothing effective

7. **Q7. What is your use of mobile technology in English class?**
Tick all that apply.

- ☐ Translate
- ☐ As a dictionary
- ☐ For pronunciation

8. **Q8. Do you think that mobile technology encourages interaction in English language among students?**
Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ Partialy

9. **Q9. How useful has mobile technology been in improving vocabulary?**
Mark only one oval.

- ◯ Very useful
- ◯ Partialy useful
- ◯ Not useful

Appendix 3: Quizzes about classroom vocabulary.

Quizizz

E-Vocab - Classroom Vocabulary

Name : _____
Class : _____
Date : _____

1. Choose the related expression:

☐ a) This is my first English exam.

☐ b) The ball is in the box.

☐ c) I watch funny cat videos in Youtube.

2. Choose the related expression:

☐ a) You are my best friend

☐ b) My phone number is 3111-8111. Call me!

☐ c) The word "mistake" is a synonym of "error"

3. Choose the related expression:

- ☐ a) 11:30 p.m.? It´s too late. I am going to sleep.
- ☐ b) This is the student list
- ☐ c) My phone number is 777-4444. Call me.

4. Choose the related expression:

- ☐ a) How to make coffee in a Coffee Maker?
- ☐ b) The Science homework is for tomorrow.
- ☐ c) This is my first English exam.

5. Choose the related expression:

- ☐ a) I watch funny cat videos in Youtube.
- ☐ b) Rise your right hand.
- ☐ c) The ball in the box.

6. Choose the related expression:

☐ a) You are my best friend

☐ b) This is a heart shaped box.

☐ c) I can make you smile

7. Choose the related expression:

☐ a) You are my best friend

☐ b) This is a heart shaped box.

☐ c) This is the student list

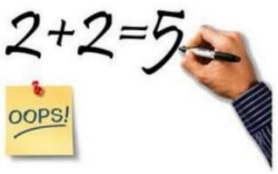
8. Choose the related expression:

☐ a) How to make coffee in a Coffee Maker?

☐ b) Rise your right hand.

☐ c) The ball in the box.

9. Choose the related expression:



- ☐ a) The word "mistake" is a synonym of "error".
- ☐ b) 11:30 p.m.? It´s too late. I am going to sleep.
- ☐ c) This is the student list

10. Choose the related expression:

- ☐ a) Rise your right hand.
- ☐ b) The ball in the box.
- ☐ c) I watch funny cat videos in Youtube.

11. Choose the related expression:

- ☐ a) How to make coffee in a Coffee Maker?
- ☐ b) Rise your right hand.
- ☐ c) The science homework is for tomorrow.

12. Choose the related expression:

- ☐ a) 11:30 p.m.? It´s too late. I am going to sleep.
- ☐ b) This is the student list
- ☐ c) This is a heart shaped box.

13. Choose the related expression:

- ☐ a) I can make you smile .
- ☐ b) 11:30 p.m.? It´s too late. I am going to sleep.
- ☐ c) This is the student list

14. Choose the related expression:

- ☐ a) The science homework is for tomorrow.
- ☐ b) Wash your hands before you eating.
- ☐ c) This is my first English exam.

Answer Key

1. b
2. a
3. c
4. c
5. a
6. b
7. c
8. a
9. a
10. a
11. c
12. a
13. a
14. b

Appendix 4: Quizzes about classroom expressions.

Quizizz

Name : _____

Class : _____

E-Vocab - MEP Classroom Vocabulary

1. Are you ready to do the exam?

☐ a)

☐ b)

☐ c)

☐ d)

2. I know is kind of difficult, but do your best.

☐ a)

☐ b)

☐ c)

☐ d)

3. Silence please, I get to make a call. Frank is sick.

☐ a)

☐ b)

☐ c)

☐ d)

4. Stop making fun of Katty. Be respectful!

☐ a)

☐ b)

☐ c)

☐ d)

5. I made a mistake, I skipped question 2.

☐ a)

☐ b)

☐ c)

☐ d)

6. Yes, go to drink water, but come right away.

☐ a)

☐ b)

☐ c)

☐ d)

7. Your coming too late Carlos, what happened?

☐ a)

☐ b)

☐ c)

☐ d)

8. Please, come in. Welcome!

☐ a)

☐ b)

☐ c)

☐ d)

9. Quiet down, please. I have to call the roll.

☐ a)

☐ b)

☐ c)

☐ d)

10. By a show of hand, Quizizz or Kahoot! Quizziz?

☐ a)

☐ b)

☐ c)

☐ d)

11. You should learn this dialogue by heart, and perform it tomorrow.

☐ a)

☐ b)

☐ c)

☐ d)

12. Don't forget to do the homework for tomorrow.

☐ a)

☐ b)

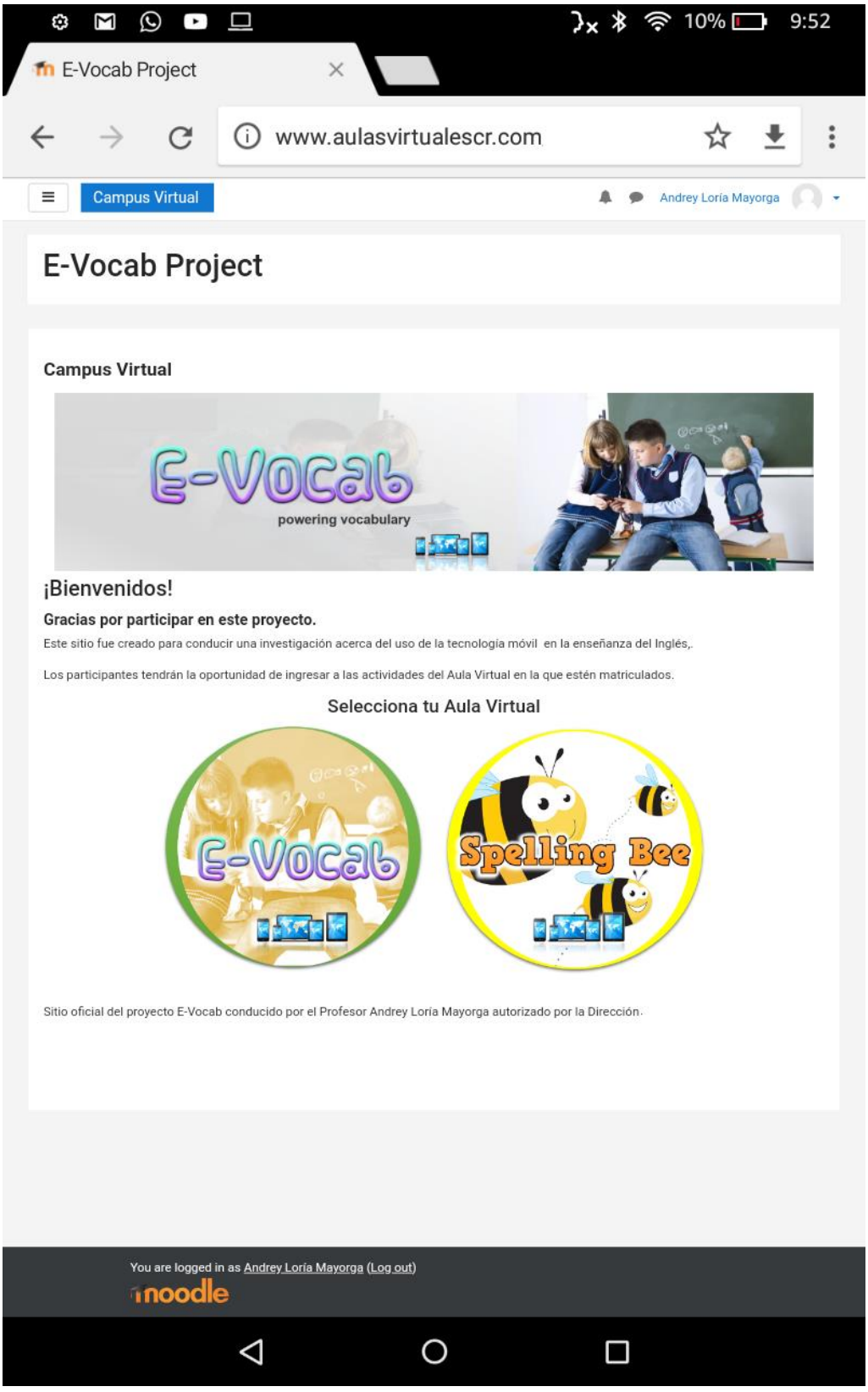
☐ c)

☐ d)

Answer Key

1. d
2. b
3. c
4. b
5. d
6. c
7. b
8. c
9. a
10. a
11. a
12. c

Appendix 5: Virtual Learning Environment front page, tablet screen capture.



Appendix 5: E-Vocab virtual classroom, tablet screen capture composition.