Mejorar el aprendizaje de los estudiantes a través del enfoque GBL utilizando computadoras portátiles dentro y fuera de su entorno educativo

Ligia Rosa Martínez Bula[1]
Ligia.martinezbu@cecar.edu.co
Corporación Universitaria del Caribe CECAR
Colombia

Marisela Restrepo Ruiz
Marisela.restrepo@cecar.edu.co
Corporación Universitaria del Caribe CECAR
Colombia

Jhon Edinson Anaya Herrera
Jhon.Anaya@cecar.edu.co
Corporación Universitaria del Caribe CECAR
Colombia

Nini Johana Villamizar Parada
Nini.villamizar@cecar.edu.co
Corporación Universitaria del Caribe CECAR
Colombia

Mario Alfonso Gándara Molina
Mario.gandara@cecar.edu.co
Corporación Universitaria del Caribe CECAR
Colombia

RESUMEN

La siguiente investigación se enfoca en el aprendizaje del idioma inglés en los estudiantes de la Corporación Universitaria Del Caribe- Cecar. Para potenciar el aprendizaje de los estudiantes se tuvo en cuenta el uso de computadores portátiles con el fin de aplicar una metodología activa denominada Aprendizaje Basado en Juegos (ABJ) para fomentar en los estudiantes el aprendizaje y la enseñanza del mismo. La población que formó parte de este estudio fueron ocho estudiantes del programa de pedagogía en primera infancia de Sincelejo, Sucre. Este es un estudio cualitativo para explorar, descubrir y determinar el proceso de los estudiantes a través de observaciones directas y entrevistas para enfrentar este problema dentro y fuera del contexto real. Uno de los hallazgos de este proyecto de investigación fue que los estudiantes lograron mejorar su nivel de inglés en expresión oral a través del uso de esta estrategia significativa. Para concluir, es esencial mencionar que integrando este tipo de metodología, el cambio no sólo se percibió por parte de los estudiantes sino también en los alumnos de su práctica pedagógica.

Palabras Clave: *aprendizaje; portátiles; GBL; estrategia; retos; práctica pedagógica.*

---

[1] Autor Principal

Enhance students' learning through GBL approach using laptops in and out of their educational environment

ABSTRACT

The following research focuses in the English language learning of students at Corporación Universitaria Del Caribe- Cecar. To enhance students' learning was taken into account the use of laptops in order to apply an active methodology called Game Based Learning (GBL) to foster students to learn and teach with it. The population that was part of this study was eight students from early childhood pedagogy degree in Sincelejo, Sucre. This is a qualitative study to explore, discover and determine the students' process through direct observations and open interviews to face this problem in and out real context. One of the findings of this research project was that students were able to improve their speaking level through using the significant strategy. To conclude, it is essential to mention that integrating this type of methodology, the change was not just perceived from the students but also for their students' learners in their pedagogical practicum.

Keywords: *learning; laptops; GBL; strategy; challenge; pedagogical practicum.*

INTRODUCTION

Laptops have become standard equipment in higher education as the number of universities instituting laptop initiatives continues to grow (Weaver & Nilson, 2005). However, according to Bhave "laptops have provoked some negative impact on the students' meaningful learning because they do not use them in a proper way and make them a means of distraction". The problem is that they already mentioned devices are sometimes helpful in classes; nevertheless they make students be more focused on them than on their learning process. As it was observed at English level V of students at Corporacion Universitaria Del Caribe - Cecar, when learners were asked to work on computers (Cambridge platform), they started doing different things from the assignment such as chatting with friends, playing games on the social network and listening to music.

Due to that situation and the lack of handle the speaking ability, there were implemented games while learning, the first step was bringing a ladder game to class and students played it with their partners and it was required to use it in their pedagogical practicum, the main idea was to learn the most important phrases on English in order to foster their speaking skill, besides it was integrated the math operation to motivate their learners to play the game. The second step was getting an online ladder game in order to use technological devices in classes, to reduce the use of paper to help the environment and to save money. When they started using this, the classes changed, students got more motivated and their English level improved in a very significant manner that it was also demonstrated on their pedagogical practicum.

Game based learning emerges because of the need to teach students in a different but didactic manner for that reason is relevant to know that GBL:

refers to both the innovative learning approach derived from the use of computer games that possess educational value and other software applications that use games for learning and education purposes (e.g. learning support; teaching enhancement; assessment and evaluation of learners etc.) (Tang & Hanneghan, 2013, p.1)

This is a qualitative research study because it will explore, discover and understand an issue that may affect students' learning process. Direct observation and interviews will be used for gathering data related to the effect of these devices with GBL on the learning success or failure. The purpose of this

qualitative study will be to examine how laptops and GBL use influences students learning and performance on the speaking ability.

This research will be useful and helpful since it will provide a possible way to teach a lesson through the use of laptops without distracting students' learning process. In so doing, education will be focused on new techniques that can be implemented in an English class. Although they are useful tools, they may bring about negative consequences in students' learning process due to the fact that technology devices provides games, interesting web sites and others distracters that may provoke bad behavior on students (Crook & Barrowcliff ,2001).

This study is important as teachers will make their students be aware of the proper use of these mobile devices which will enrich and benefit their learning process and all that positive impact will be seen in the success of their final grades.

This paper is expected to provide additional empirical research on the ways students in higher education classrooms use laptops and mobile for academic purposes. They will recognize that laptop and GBL use helps them focus better, prepares class presentations and takes advantages of the academic resources on the web in order to have academic success and develop meaningful learning and teaching.

This research study is addressed to population at Corporacion Universitaria Del Caribe - Cecar, in Sincelejo - Sucre, especially in English level V that are eight students from early childhood pedagogy degree.

In the study by Donley (2012), as technology continues to evolve, it brings with it new opportunities and challenges for educators and students. Social networking is a great example of technology that can help education, depending on how it is used and integrated into teaching plans. According to Bucki (2008), a laptop computer is a portable personal computer light and small enough to sit on a person's lap.

This study is relevant because it will describe in a general way the role technology plays in education and how it affects students' meaningful learning. It will also examine carefully students and children learners' perception about the way students take advantage of their devices in class in order to fulfill their tasks and what students think of the importance of technology on their overall academic experiences, all this to determine how and when teachers should integrate technology into classroom

experiences to enrich and benefit their students' learning process and how GBL plays a role in this dual process (teaching and learning)

In this study, the eight students from Cecar and 5 children for each student are considered as the target population. Samples are taken through a sampling technique called Non-probability sampling. The type of this technique is Convenience Sampling. It has to do with selecting some specific samples because it is accessible to them and subjects is chosen simply because they are easy to recruit. Besides that, this technique is considered easiest, cheapest and least time consuming. For collecting data, direct observation and interviews are carried out in order to describe teacher, students' and children's perspectives of implementing technology and game based learning in education. The participants are eight (8) ninth students , one (1) teacher and five (5) children per students of this English level V.

In this chapter, the following issues will be discussed: technology in education, influence of technology on students' learning performance, importance of laptops in schools, , negative impact of laptops on learning process, teachers' perception of using laptop, the role of game based learning in education, the motivation of using GBL, and students' role.

Technology in Education

Donley (2012) claimed that technology is constantly changing and making easier people lifestyle and it becomes relevant in education since it continues to evolve bringing new opportunities and challenges for educators who integrate it into teaching plans. In this respect, technology helps students in their meaningful learning process because it provokes a positive impact in students' achievement by promoting higher participation, more interest in learning, and a greater motivation to perform well. In other words, technology has been evolving through every period of time. It plays an important role in education since it helps students in their daily learning process and it makes and provides better results for them Donley (2012). However, technology has changed the chalkboard and markets for the use of laptops in classes making students take advantages of technological devices. To exemplify this, the use of social networking can be useful in education depending on how it is used and integrated into teaching plans.

Influence of Technology on Students´ Learning Performance

According to Demb & Hawkins (2004) technology has provoke a positive impact in the educational field through the use students make of laptops. It has shown a quite improvement on students' performance since teachers allow students to bring their laptops to the classroom and they use them in a proper way with academic purposes. A great amount of students have claimed that technology has several benefits which contribute to their progress and achievements to become highly skilled students (Demb & Hawkins, 2004). In practice, some of the main benefits are that students do not have to go to somewhere to do their homework, search through lots of book or carry many of them in their heavy schoolbags when attending classes as it happened many years ago, in as much as they can bring their laptops and make them a pedagogical aid and game.

The Importance of Laptops in Schools

Research completed by Carrie found that laptops are quite significant machines which boost students' attention and catch it faster than a notebook or a simple book (Carrie, 2008). They are also implemented in schools to allow for increased facility and speed of note-taking and engagement with online sources associated to the course material, helping teachers to make better lessons plans. Moreover, laptops can be used to promote "faculty-student interaction and raise rates of in-class participation and student motivation" (p, 108); it means that these devices enable students to be more active when dealing with any topic because they can use the internet for immediate search about whatever they want. Nowadays, they do not have to move to the library and spend time or money.

Negative impact of Laptops on Learning Process

Klaus (2012) added that technology in today's classroom had a negative impact that it can take away valuable learning time, it can be overused, and it can also turn educational experiences into games for students. Technological devices such as laptops are not being used in a proper way by students in classrooms and that is because teachers do not know how and when let them take their devices out. Teachers should monitor their students' work to make sure they are integrating technology with education and taking advantage of these devices for their performance Klaus (2012). In addition the use of these technological devices must be included in teacher's classroom plan to prevent the inappropriate use of these devices and provoke a negative influence in students learning process.

Teachers' Perception of Using Laptops During a Class

In 2010, Jones and Harlow stated that the perception of teachers about the use of laptops in class has changed over the years because now these devices are seen as tools which promote motivation in students and offer a better way to learn and improve their learning process. Laptops are provoking an important development inside the classroom because they are increasing the attention and motivation of the students producing a significant advance in education Jones and Harlow (2010). In addition to this, these technological devices will facilitate a more effective and efficient work in schools, as students use them in a proper way. That´s why at the moment of making use of them during classes, teachers say they should monitor what their students are doing because they can distract easily with other networks or websites which does not have academic purposes. If students integrate their laptops with the lesson successfully, they will be more active students because they will not find the class boring.

The role of game based learning in education

In 2015 Clark assumed that there is an important role of game based learning because it helps students to analyze better everything they do, in addition to it, he says that this support productive learning. Backlund and Hendrix (2013) affirmed that using serious game in the educational processes students will report positive outcomes in their meta-analysis (Vlachopoulos & Makri 2017). Due to this relevant conception games plays a significant role in education because this allows students to get more motivated to class. As people know students got a little frustrated when they have to speak in English with friends or in a public. Nonetheless, when using games, they learn more vocabulary, practice phonemes and expand their knowledge. Thus, they will improve their speaking ability and lose that fear.

The motivation of using GBL

The impact of using this active methodology is shown when students are asked to do some activities in class or at home and they do them without asking other people to help them because they know how the game is and how funny they will learn without knowing that is a demanding activity, they just do it because they want to play the game. (Vlachopoulos & Makri 2017). In addition the use of these technological devices and GBL must be included in teacher's classroom plan to prevent the inappropriate use of these devices and provoke a negative influence in students learning process.

Students Role

In one developmental study (Barkhuus, 2005), students with laptops in class were surfing the internet, emailing, or writing assignments during a lecture. Some students are not playing a good role when using laptops during a class because they use them for doing different things which are not related to the lesson, provoking problems in their perception of the ideas and topics explained by teachers and affecting their learning process Barkhuus, (2005). On the other hand, students handle this important device in a good way using it for specific purposes that are associated with the class assignments and homework's. Briefly, the use of this technological devices combined with GBL have their pros and cons but if students use them in a proper way and teachers establish the rules for using them during a class, it would be an excellent tool for students learning process and performance their scores.

Research Design

This study followed a qualitative design which is a method for exploring issues, understanding phenomena, describing facts and answering questions (Maxwell, 1992). This qualitative research study has to do with the influence the use of technological devices combine with GBL has in the success or failure of students' learning. The purpose of the current study is to explore the problems, challenges and consequences associated with classroom use of mobile devices in higher education while playing games. This study is carried out in order to praise how laptops and GBL affect the students' learning process when they are allowed to use them. It is also paramount to point out the plenty of consequences that laptops bring out in classes and how students can handle with this new tool that is provided.

Appropriateness of Design

Case study is an intensive study of a single unit with an aim to generalize across a larger set of units. Case studies rely on the same sort of conversational evidence utilized in non-case study research. Thus, the case study method is correctly understood as a particular way of defining cases, not a way of analyzing cases or a way of modeling causal relations (Gerring, 2004). Besides, case study is part of qualitative research because it refers to an intensive, holistic description and analysis of a single instance, phenomenon or social unit. (Merriam, 1988). This sort of method is well-appropriate for this research study as it is concerned about the importance of using digital game in classes; therefore this study is

focused on the use of steps which will explain this problem as such. That's why case study is totally relevant in this research study.

Data collection is carried out through direct observation and interviews that are useful for the stakeholders to reflect their perception or judgment about the increasing number of students who use digital game in their classrooms when attending classes and how it influences their performance. In addition to it, the data gathered is also useful because it shows if what it is exactly happened when students use their laptops to play the ladder game in the classrooms and how it can be noticed as disadvantages or advantages in students' progress. Behind it, these results will be criticized through truly facts to recognize who is managing their work in a corrupt manner.

The purpose of the following questions is to explore the impact of using digital game in the students learning process. All these concern many teachers have because of the great amount of students who use their laptops for non-learning purposes such as web surfing or social emailing (Barak, 2006).

How does the use of digital game impact the students' learning speaking progress at Corporacion Universitaria Del Caribe- Cecar?

How do pedagogical practicum students perceive digital games are useful in life, although they influence the success or failure of students' learning?

Population and Geographical Location

This study took place at progress at Corporacion Universitaria Del Caribe- Cecar? Which is a well known private institution located in kilometer 1 Corozal, Sincelejo- Sucre and is considered one of the best university in Sucre.

Data Collection

Data collection is the systematic gathering of data for a particular purpose from various sources, including interviews, observation, existing records, and electronic devices. The process is usually preliminary to statistical analysis of the data. (Rukenbrod, 2003). Qualitative data collection methods play an important role because they impact the results of a study and can lead to invalid results. (Leedy and Ormrod, 2001). Taking into account that data collection is an important aspect of any type of research study, this case is not the exception. In this study, data will be collected in order to provide

information useful to understand what has already been observed and assess changes in people perceptions.

Data Analysis

According to Wiersna (1986), data analysis is the phase of a study that includes classifying, coding, and tabulating information needed to perform quantitative or qualitative analyses according to the research design and appropriate to the data. Data analysis follows collection of information and precedes its interpretation or application. Understanding these processes is therefore an important aspect not only of doing qualitative research, but also of reading, understanding, and interpreting it (Thorne, 1997).

Analysis results

The results that were obtained through the use of direct observation was that when students used the ladder game it was something unbelievable for them, the students showed interest and every class the teacher modify the game in order to learn every unit, with an extra idea of learning math operations while playing. Nevertheless, after using this game for one month students' motivation decreased. When using it, one English exam for the first period was done and the students got the following scores.
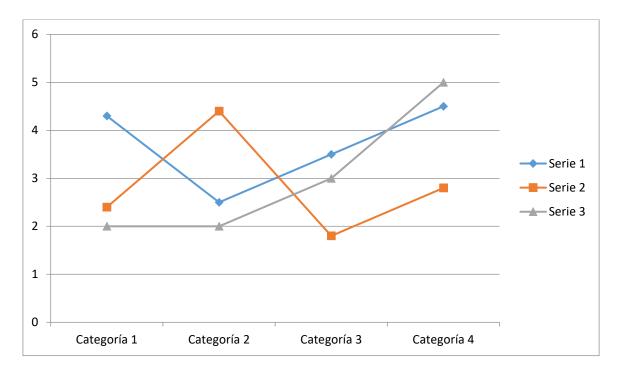
S1	S2	S3	S4	S5	S6	S7	S8
3.5	3.8	3.7	3.4	3.3	3.6	2.8	3.0

The teacher also observed their children at schools and the English students were teaching was not that appropriate, trying to do the same as teacher did however they made so many mistakes in pronunciation and with the methodology.

After those results, the teacher changed the methodology and students used the same game but now online. The motivation increased, students did their game and learned English at same time. Their children at school started to pronounce better and they wanted to play in and out the school. Even some parents started using the game to check how useful this one for their kids was.

For the second exam the students got the following English speaking scores.

S1	S2	S3	S4	S5	S6	S7	S8
4.2	4.3	4.4	3.8	3.7	4.0	3.4	3.8

After it, the students were interviewed at the end of the project and these were their answers:

How does the use of digital game impact the students' learning speaking progress at Corporacion Universitaria Del Caribe- Cecar?

Whole students said that using this strategy started changing the way of learning and teaching.

How do pedagogical practicum students perceive digital games are useful in life, although they influence the success or failure of students' learning?

The students even did not notice that they were using technology and learning English at the same time

CONCLUSION

To conclude, it is quite necessary to affirm that technological devices are the tool for the future, it helps teachers to do dynamic and entertainment classes without spending a lot of money or time consuming.

REFERENCES

Alister, Jones & Ann, Harlow. (2010). Laptops for Teachers: An evaluation of the TELA scheme in schools.

Barak, M., Lipson, A., & Lerman, S. (2006). Wireless laptops as means for promoting active learning in large lecture halls.

Barbara, Weaver, & Linda, Nilson. (2005) Laptops in class: What are they good for? What can you do with them?

Bucky, J. (2008). Use of signaling to integrate desktop virtual reality and online learning management systems.

Carrie, B. (2008). In-class laptop use and its effects on student learning

Charles, Crook, & David, Barrowcliff. (2001) Ubiquitous Computing on Campus Patterns of Engagement by University Students.

Crook, C. & Barrowcliff, D. (2001). Ubiquitous computing on campus: Patterns of engagement by university students.

Demb, A. & Hawkins-Wilding, S. (2004). The laptop alternative: student's reactions and strategic implications.

Denzin, N. (1970). The Research Act in Sociology.

Geoff, Hineman. (2008). How to Make a Central Question for a Research Paper.

John, Gerring. (2004) What Is a Case Study and What Is It Good for?

Joseph, A. Maxwell. (1992) Understanding and Validity in Qualitative Research.

Julia, Klaus. (2012). Negative Effects of Using Technology in Today's Classroom.

Leedy, P. & Ormrod, J. (2001). Practical research: Planning and design (7th Ed.)

Megan, Donley. (2012). Technology's Influence on Education.

Merriam. (1988). Case study in education: A qualitative approach.

Miles, M. & Huberman, A. (1994). Qualitative Data Analysis.

Sally, Thorne. (1997). Data analysis in qualitative research.

Selwyn, Neil & Husen, Onno. (2010). The educational benefits of technological competence: An investigation of students' perceptions.

Spicer, N. (2004). Combining Qualitative and Quantitative Methods (2nd Ed.), Sage Publications.

Tang, S., & Hanneghan, M. (2013). *A model driven serious games development approach for game-based learning.* Athens: The Steering Committee of The World Congress in Computer Science, Computer Engineering and Applied Computing (WorldComp).

Vlachopoulos, D., & Makri, A. (2017). The effect of games and simulations on higher education: A systematic literature review: Revista de universidad y sociedad del

conocimiento. *International Journal of Educational Technology in Higher Education, 14*, 1-33.

Wurst, C. & Gaffney, MA (2008). Ubiquitous laptop usage in higher education Effects on student achievement, student satisfaction, and constructivist measures in honors and traditional classrooms.

.