THE APPLICATION AND USE OF THE DIGITAL APP QUIZLET TO LEARN VOCABULARY IN ENGLISH DURING THE FIRST BACCALAUREATE EDUCATION AT THE SECONDARY SCHOOL MILÀ I FONTANALS (VILAFRANCA DEL PENEDÈS): A CASE STUDY

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Abstract

The present study aims to analyse the use of current digital technologies such as Quizlet to learn vocabulary in the English subject. The participants of this study are students that are currently enrolled in the 1st of Baccalaureate course. The study also attempts to examine the students' predisposition toward this sort of technologies, as well as to figure out their experience with its use. Additionally, it has been elaborated as a class content proposal with the incorporation of Quizlet. The applied methodology has been mixed, using tools from the qualitative methodology (interviews and non-participative classroom observation) and tools from the quantitative methodology like questionnaires. The results obtained demonstrate that, with Quizlet, students' motivation and participation increase when they are studying, learning and practising with English vocabulary. At the same time, they also reach higher rates of content retention. Nevertheless, the results did not bring enough relevant information on whether the use of Quizlet has a positive impact on the students' evolution and academic performance.

Keywords: English as a foreign language, Vocabulary, ICT, motivation, Quizlet, non-participative classroom observation, interviews, questionnaires

Resum

El present estudi pretén analitzar la utilització actual d'eines digitals com Quizlet per aprendre vocabulari en llengua anglesa. Els participants de l'estudi són estudiants que actualment estan cursant 1r de Batxillerat. L'estudi també vol examinar la predisposició dels estudiants cap a les noves tecnologies, així com conèixer la seva experiència d'ús. A més a més, s'ha elaborat una proposta de classe amb la incorporació de Quizlet. La metodologia aplicada ha estat mixta, utilitzant eines de la metodologia qualitativa (entrevistes i l'observació d'aula no participativa) i eines de la metodologia quantitativa com els qüestionaris. Els resultats obtinguts demostren que, amb Quizlet, la motivació i participació dels estudiants augmenta quan estudien aprenen i practiquen vocabulari en llengua anglesa. Al mateix temps, aconsegueixen nivells més alts de retenció de continguts. Tot i així, els resultats no van mostrar suficient informació rellevant per determinar si l'ús de Quizlet va tenir un impacte positiu en l'evolució i rendiment acadèmic dels estudiants.

Paraules clau: llengua anglesa, vocabulari, tecnologies, motivació, Quizlet, observació d'aula no participativa, entrevistes, qüestionaris

1.Introduction

1.1. The application and use of Quizlet in the Baccalaureate courses

Technology brings multiple ways to constitute extra classroom activities that can motivate and engage our students. When learning vocabulary, Quizlet has appeared in recent years as one of the most sophisticated tools specifically designed for the acquisition of vocabulary. Quizlet was created in 2005 by Andrew Shuterland and was launched on the market in 2007. The main aim of the tool is to train students through flashcards presented in different features, which foster collaborative learning, drilling and repetition across fun games. The application is available for Android and IOS and can be used anytime and anywhere by teachers and students.

For a teacher's use, the first step is to go to Quizlet website and create a new account. The application offers two options: to register freely with access to the basic features of the tool or to pay a monthly fee to have access to Quizlet+. It is notorious to indicate that in this study it has been used Quizlet+ (with a monthly trial), in order to collect all the data needed for this study. The free version of Quizlet did not provide enough content to attempt to answer all the questions posed in the section of the objectives of the study.

Once the Quizlet account is created, the tool allows users to create sets of vocabulary flashcards from any sort of subject they like (English, Maths, Sciences, etc.). Each flashcard has two sides: on the one side there is the word or sentence to be learned or revised; and on the other side, the meaning of it. The different study options that Quizlet offers are:

Flashcards	It allows students to study the vocabulary set card by card.
Learn and write	The student has to guess the vocabulary word that corresponds to the sentence or word given by the application.
Spell	Students type the word they listen to.
Test	A test with all the concepts that have been created (open answers, match words with definitions, multiple options test…)
Match and Gravity	Fun game-based activities. Matching definition with its concept. At the end, the students' ranking appears.

Figure 1. Study options of Quizlet

These activities are conceived to be done individually, as part of the vocabulary training process to achieve the content of the vocabulary unit. One of the advantages that one could benefit from the Quizlet+ subscription is that you have access to see the evolution of each student, as a way of assessing them. Therefore, you can check how many of these activities, students have finished

or accomplished. Once the study of the flashcard unit is done, the application suggests doing two 'in-class activities': classic Quizlet live or Checkpoint.

Quizlet Live is done in teams and it works like a competition. The application allows the teacher to choose if the assignment of groups is done by the teacher or randomly. Once the groups are done, each member needs to have an electronic device (mobile phone, laptop, tablet...). The set of questions will appear on all members' devices, but the correct answer will be only in one of them. Every time a new question comes up, the correct answer will appear in a different member's device. This means that students need to work together to find the correct answer. While students are playing the competition, the evolution of the competition with the general classification and the winning team at the end of the contest appears on the teacher's device.

Checkpoint permits to conduct a fun and formative assessment. The functioning of the game is pretty the same as in Quizlet Live, but in this case, the activity is done individually and not in groups. A set of flashcards with definitions will appear and the student needs to find the correct answer to each question. At the end of the activity, a student classification appears.

The variety of content and flashcards that could be found in Quizlet is almost limitless. One of the benefits is that work and content published by people all over the world, in many languages, may be found. That is to say, it is not compulsory to create a new flashcard set to start to work in Quizlet, as you could take advantage of the content produced by other teachers. However, it is recommended to check the veracity of the content because everybody can post everything, there is no reliability test made by Quizlet.

Quizlet's quantity of different options for learning vocabulary is undeniable, which is why it was chosen to participate in this case study. The election of the Secondary School was not made by coincidence; it is the centre where the researcher of this study did her practicum placement. First of Baccalaureate students are the class groups in which the researcher attended and, therefore, did her autonomous teaching period.

1.2. The objectives of the study

The main objectives of this study are:

- To analyse what digital tools and resources were used in Milà i Fontanals Secondary School to teach vocabulary in the English subject.

- To detect the interest and attitude of the students of First of Baccalaureate courses towards the implementation of digital tools (Quizziz, Quizlet, Kahoot,etc.) to learn vocabulary in English.

- To find out, thanks to classroom observation, how an English class is developed in the First of Baccalaureate courses.

- To establish a content proposal to teach vocabulary in English classes in the First of Baccalaureate courses with the incorporation of Quizlet.

- To reach a conclusion on whether the use of Quizlet to teach and learn vocabulary influence the student's knowledge acquisition.

2.Theorical framework

2.1. Learning vocabulary in a foreign language acquisition

Learning vocabulary or developing the lexicon competence is a key task in the apprenticeship of a second foreign language, and it composes the "[…] early stages of linguistic learning" (Dagut, 1977). In the study led by Agustín Llach, M.P., (n.d.) it is said that the lexicon elements provide the content for proper development and acquisition of a language, and especially in the acquisition of a second language. More specifically, the study affirmed that possessing an appropriate lexicon knowledge foster treading comprehension, writing expression and discursive organisation. Having considered all these aspects, it could be deduced that both vocabulary and lexicon competence occupies a central position in any communicative process.

The process of learning vocabulary in a foreign language (L2) is not isolated, as learners have intrinsic characteristics that influence the lexical acquisition process. One of these variables that has the biggest influence is our mother tongue (L1). One more time, in the study provided by Agustín Llach, M.P., (n.d.), it is said that the existence of cognates between both languages (L1 and L2) will clearly facilitate the assimilation and selection of the specific vocabulary: less typological distance, more presence of cognates. The influence of the L1 in the development of the L2 plays a positive role in the learning process, as it is used to compensate for the lack of lexical knowledge, it helps on the lexical search or could be used as a strategy to keep on the communication process with the other speaker instead of abandoning the conversation. However, the L1 could also influence in a bad manner, which means to provoke lexical mistakes, where cognates between L1 and L2 are quite similar (for instance, in Catalan or Spanish).

All things said, Agustín Llach, M.P., (n.d.). affirms that the interlinguistic influence of the L1 is crucial all along the vocabulary learning process, and more precisely in the early phases, as it helps to facilitate the lexical acquisition of the L2. This interlinguistic influence will slowly vanish as long as the apprentices progress on their L2 knowledge.

2.2. The use of ICT in the educational sector

ICT (Information and Communications Technology) has played a critical role in the educational sector's adaptation to the needs of today's society for several years. They are an important part of the deeper transformation that learning and teaching methods are undergoing, and, in the

following lines, the researcher of the study would like to expose some of the aspects that promote this technological revolution:

- The presence of new technologies takes place along the whole educational and non-educational life. This means that digital skills help to create constant learning, which becomes something omnipresent and wherever placed (Ros, 2011; Ehlers, 2009). The Internet permits access to a vast quantity of information from everywhere and every moment. It has the capacity to break the time and space barrier, known as **informal learning** (Fischer, 2000) which is amplified and favoured by the evolution of the technology. Informal learning is the one that is given out of the conventional educational frames and implies the fact of acquiring knowledge as a free personal activity, often spontaneous and not planned. With the Quizlet application, students dispose of the vocabulary unit in a permanent way, which means they can have access to it whenever they want and wherever they are.

- *Learning by doing* methodology according to Iglesia, S. & Garcia, E., (n.d.). Digital technologies encourage a more significative and motivating learnedness, as the student does not only memorize a specific concept or information but has to face real problems, develop precise tasks, put into practice some of the contents learned... in order to solve the proposed assignment as well as to think about what it has worked or not. This sort of methodology focuses on the learning activities more than on the contents, prevailing the initiative and the active participation of the student. The vocabulary exercises suggested in Quizlet totally involve the student, since they perform an active role throughout the realisation of multiple exercises in order to retain the vocabulary learned.

- **Cooperative work** is another major benefit we can get from this digital era we are living in and, undoubtedly, digital resources considerably facilitate it. In the study provided by Iglesia, S. & Garcia, E., (n.d.) it is said that the online collaborative work is based on an active process, where students interact with the aim of constructing a common objective from their individual work. Quizlet tool offers diverse options to practise and revise the vocabulary learned in groups or small teams. In each team, students develop their autonomy and sense of responsibility, as they must filtrate and select the information to then convert it into knowledge.

- The confluence of the different trends in e-learning tends to assist several ways of learning that are turning into more and more **flexible and tailor-made methods**. One of the positive consequences of it, as said by Iglesia, S. & Garcia, E., (n.d.) is that the most unmotivated students start to show interest and a tendency to learn new things with the use of digital tools. In the case of the Quizlet experiment, all the students that had non-respectful behaviour and had showed no interest in none of the lessons, completely acted differently when they were in front of a computer and with a dynamic task to be done.

This aspect led us to think that if we are capable to adapt the contents of the subject to the needs of each student, the result will be to have students with higher rates of involvement and possibly, better marks. Technology and digital resources set up the path to do that, in an easy and flexible way.

Among all these considerations, it is essential to value the current status of ICT incorporation in the Education sector, and its impact on pedagogy and learning. The real situation is that this impact varies depending on the objectives that are followed with its implementation.

Firstly, if ICT is seen as part of the curricular contents (Coll, 2021, p.124) which means as a part of the teaching and learning object, the valuation is indeed positive and the perspectives of future optimistic. All the indicators point to a growing incorporation of the ICT in the school curriculum, without an apparent belief of thinking that the apprenticeship of the digital tools will be an impediment to its implementation.

A second possibility is to try to incorporate ICT with the aim of carrying out a more efficient and productive the teaching and learning process, taking the benefits and possibilities that this type of technology offers. In other words, still in a lot of classrooms digital tools are used, both by teachers and students, to do what it used to be done: to search for information to prepare the lessons, to write down assignments, to do presentations in the class, etc. The objective is the same but what has changed is the method. This means that the incorporation of digital resources in the classroom is not seen as a transformative factor of teaching practices, but more as an element that offers support to the teaching practices already established.

Finally, another option would be to consider the potentiality of new technologies to boost new ways of learning and teaching. The idea is to use ICT to do new things, not to just do what has been done but quickly or more efficiently. This argument is known as digital literacy, (Coll, 2021, p.125) and its real objectives of it could not be achieved with the simple introduction of some curricular content and the teaching and learning of control of the digital tools. Is the whole curricular content that should be revised with the aim of being suitable to the formative needs and socio-cultural practices of the current society of the information. While this detailed revision does not take place, we probably keep on doing small steps on improving the knowledge and having a good command of these technologies by students. But the real change will come when we will be capable of effectively using all the possibilities that ICT offers to us.

2.3 Teaching vocabulary in a second foreign language

Teaching vocabulary has always been a controversial issue due to several factors. What do we consider vocabulary? How many words do we need to teach? What do we mean by a word? The list of questions is almost endless, and it seems there is not a clear answer that gives some light on any of these approaches.

First of all, it is needed to delimitate what vocabulary is. In fact, there are different kinds of vocabulary items or words, and as second language learners, one simple way to look at it is in single words, set phrases, variable phrases, phrasal verbs and idioms.

Secondly, it is of paramount importance to clarify what it means to know a word. When we ask a student "Do you know this word?" and the student says "Yes", probably the answer we expect from them is that they provide the meaning of the word. However, knowing a word involves much more than knowing just its meaning. Knowing vocabulary depends on polysemy, connotation, spelling and pronunciation, part of the speech, frequency, usage and collocation.

What we have seen so far is that vocabulary is a complex issue, and that knowing a word is more challenging than just knowing its straightforward meaning. The important point as teachers is to have clear on mind that a word is not just a single word and that knowing a word is one tiny part of the process. In the following lines, the researcher will get into different strategies that were used to prepare the Quizlet vocabulary lesson.

- The **vocabulary set was organized and presented randomly**. The unit created was composed of 60 words taken from the different sources used for teaching vocabulary during the lessons. These 60 words were not ordered following semantic or thematic sets. Each of the words has its own meaning and does not belong to a group of specific words nor to a precise thematic. In fact, some researchers such as Tinkham (1993), did an experiment with students of ESL who were learning semantically related items and semantically unrelated vocabulary items. The results showed that learners who were given words that share a common superordinate concept (Folse, 2004, p. 52) need more time to learn these words than students that do not have a common superordinate. Thus, the findings of this study suggest that students struggle learning new words presented in semantic clusters than doing it with unrelated words. All things said, the researcher can conclude that there is no evidence that this aspect could affect the attainment of the learning objective.

- One of the purposes of the Quizlet vocabulary set was to **repeat and recycle.** Researchers state that repetition is a key aid to learning "and that having to actively recall or "retrieve" a word is a more effective way of learning than simple exposure or just seeing a word over and over" (Sökmen, 1997). To review vocabulary with exercises that implicate students in doing activities that need to be produced or created by them, is more effective than merely seeing, hearing or memorise these words. In the Quizlet unit, students first need to revise all the vocabulary cards and try to memorize them. Then, in order to achieve that the vocabulary is properly acquired and retained in their minds, they had to produce several exercises such as word collocations, to properly type the vocabulary they heard, to match one word with its definition, etc. The main goal of the unit was to reach those students who were capable to memorize some of the words and their meaning using repetition strategies.

- Vocabulary was **not guessed from the context**. Quizlet vocabulary set was presented in word lists, not in a text nor an exercise where students had to deduce the word meaning. Studies said that presenting words in an elaborated text is a formula that works with native speakers that are acquiring knowledge from their L1. The story is completely different when we are in front of L2 learners, such as our 1st Baccalaureate students learning English as a foreign language. In this case, retention scores were higher when less information about the word was given, as well as limited context.

- Vocabulary flashcards were submitted in **word lists.** Clipperton (1994) states that "it would appear that when new words are first presented, it may be best to do so out of context" (p. 743). Most of the words that composed the Quizlet vocabulary set were new words from students. In consequence, the decision of only giving the words with their meaning was the best option taken to achieve an efficient learning process.

- In the Quizlet vocabulary set there were **not used translations** to learn the new vocabulary. The word lists created had the new word on the left column written in L2, and the meaning of each word on the right column was also written in L2. In case students do not understand the meaning of some of the words, they were permitted to use an L1 dictionary. Results of some research studies claimed that translations are not bad but are a helpful tool in learning new foreign language vocabulary. However, there is a bit of debate on the fact that two words could have the same meaning, but their use varies depending on the context. This aspect is a key concept that all learners must know when they are in advanced courses such as ESL or Baccalaureate, but not so essential when they are in beginner courses. For all these reasons, although the Quizlet set was formulated with no word translations, the results could have been more successful if some translation in the L1 language was given.

- The **vocabulary listed in Quizlet was not accompanied by drawings or pictures**. In many cases, some of the words or concepts did not have a precise meaning so it was quite difficult to find an appropriate image. Moreover, several studies such as the one done by Lotto and Groot (1998) concluded that students have better word retention when they are just given translations, without images. In general terms, students have higher retention scores when limited information or context is offered. This argument is even more consistent when talking about advanced learners like Baccalaureate courses, whereas in the case of beginner learners the aid of images could be in some cases helpful.

2.4. Gamification and vocabulary learning with Quizlet

Nowadays, society is immersed in the digital era and especially post-millennials or Z Generation, who are the ones leading the technological change in the classrooms. But the use of games as

an educational resource has always existed. Piaget (1961) and Vigotsky (1933;1966), cited in Martí Climent & García Vidal (2021**),** already defended the use of games in the Education sector as a learning strategy, as well as an instrument to foster the mental development of the children because it enhances the creation of imaginary worlds.

Educational gamification is based on "the use of gaming mechanics for nongame settings" Deterding, Dixon, Khaled & Nacke (2011) & Simôes, Redondo & Vilas (2013) cited in Martí Climent & García Vidal (2021). For vocabulary, it is a way to get students interested, excited and motivated about words. It enables a playful context, and "creates a space for comprehensive vocabulary instruction" (Kingsley & Grabner-Hagen, 2018). The main idea which is based the educational gamification is that students work or learn through activities, but not everything is fun based. The main principles of gaming can be applied to vocabulary teaching in order to achieve grade-level standards. Furthermore, the teacher alters an activity by including gaming principles in it, which are usually related to students' experience and engagement.

In terms of how to gamify a vocabulary unit, quests are a common resource and an idoneous option. "A quest becomes a mission or challenge those students must perform to engage in content and progress through the game" (Kingsley & Grabner-Hagen, 2018). Vocabulary quests are varied and could range from learning definitions or class gameplay with terms such as the option Quizlet offers.

When thinking about creating quests, one of the alternatives is to do it following the revised **Bloom's taxonomy framework** (Anderson, 2009), like the one that appears below:
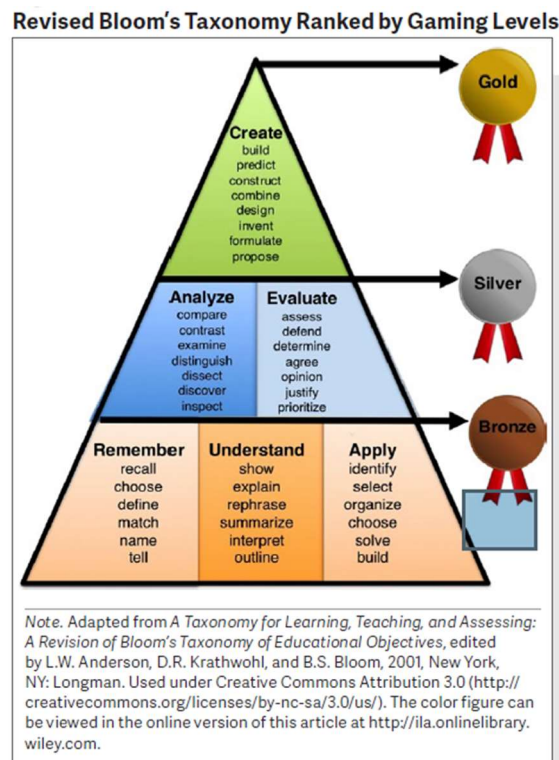

Figure 2. Revised Bloom's Taxonomy ranked by gaming levels. (Vocabulary by gamification. Kingsley, T.L., Grabner-Hagen, M.M., 2018)

At the base of the pyramid, there are the first objectives or steps that the quest should accomplish. In other words, is the basic learning that all students should acquire to proceed with the game and success with the rest of the upper levels. So, in **level 1** of the pyramid the goals are to **Remember, Understand and Apply.** Using this model in Quizlet application, in that stage was where students learned vocabulary definitions and start to practice using them through the 'Study' options that the website offers.

In **level 2** the goals are to **Analyse and Evaluate**. At that stage of the game is where students start to play with vocabulary to develop analysis and evaluation skills. In the activity designed with Quizlet, students had to work in groups and compete against others with the aim of finding the suitable meaning of each word. They had to examine the relationship between each word and its definition (Analyse) and decide which was the correct option in each case (Evaluate).

Lastly, at the top of the pyramid there is **level 3 Create** which indicates the accomplishment of the advanced learning. In that phase of the process, students are ready to create content and they are able to produce new projects or situations with the vocabulary learned in the previous steps. Regarding Quizlet, the programme did not reach the aspect as the multiple exercises and activities it offers were related to levels 1 and 2 of Bloom's Taxonomy. Because of this situation, this part of the process was planned and done using another application called Padlet. Padlet[1] is a digital wall that permits users to post content of whatever they want, including photos, videos or their own drawings. The students' object of this study were requested to create sentences using the vocabulary learned with Quizlet and post them in Padlet to be shared with the rest of the class group.

To sum up, incorporating the concept of gamification in vocabulary learning is presented as an interesting option to catch the attention of students toward the learning of new words. Learning through games increase their motivation, improves their state of mind, and strengthens their bond with others.

2.5. Cases of study with the implementation of Quizlet

After doing some research, it has been found some interesting studies that have already published about the use and results of the Quizlet tool to learn vocabulary in a second foreign language.

The aim of Chaikovska & Zbaravska's study (2020) was to check the success of the use of Quizlet tool in EFL courses with A2 level students in extracurricular language courses. Results show that the implementation of Quizlet increased the acquisition of vocabulary by up to 7% more if these results are compared with those obtained with the study of vocabulary through traditional methods such as notebooks or offline resources. They also argue that Quizlet is an effective digital tool

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[1] www.padlet.com

thanks to the integration of multiple skills with cognitive visualisation. Moreover, during this study the authors said they put special attention to the repetition procedure. They worked on vocabulary repetition along the different lessons, since they firmly believe this aspect is essential to have higher rates of success. They conclude the study by claiming that the Quizlet platform apports clear benefits to vocabulary learning as well as to exams preparation with the repetition technique.

Another study by Bueno-Alastuey & Nemeth (2020) investigates and compares two vocabulary learning and producing tools: Quizlet and podcasts. The students' object of the study are adults from 18 to 61 years old and they use pre-tests and post-tests as the methodology to collect data and results. The outcomes reached with this paper reflect that both digital tools, Quizlet and podcasts, enhance receptive vocabulary knowledge. However, the survey respondents showed an inclination to the use of Quizlet more than podcasts. The aspects they like the most about Quizlet are that it is attractive, easy to use, accessible anywhere and anytime, visual and interactive and it provides a wide range of exercises to practice vocabulary memorisation. In terms of vocabulary production, the value is limited in both tools and the results did not show evidence of the accomplishment of this aspect.

The last paper (Anjaniputra & Salsabila, 2018) analyses the use of Quizlet after secondary education when learning English as a foreign language. The methodology used to obtain the results were interviews and class observation. The conclusion of the study values Quizlet as an idoneous tool to learn vocabulary in an autonomous way, fun and enjoyable for students. One of the most appreciated aspects of the platform for students is the game-based experience. Thus, they get engaged and motivated to practice vocabulary outside of the educational frame which at the same time, it boosts their autonomy and self-study.

3.Methodology

3.1. Qualitative and quantitative methodology

The research methodology the researcher used in this case study is a mix of qualitative and quantitative investigation techniques.

The use of **qualitative methodology** responded to first-hand **interviews** with three English teachers from Milà i Fontanals Secondary School. They were teaching Baccalaureate courses and Secondary School groups. The interviews were done at the beginning of the study, to understand the context and to detect first impressions and comments about the topic of this case study. The second qualitative technique the researcher has implemented is the **non-participative classroom observation.** The researcher has attended several lessons of Baccalaureate groups with the aim of collecting varied information: the approach that teachers use when teaching vocabulary exercises, the reaction of students in front of the proposed activities, the student's degree of implication when doing vocabulary exercises, etc. All these data allowed the researcher

to draw more accurate conclusions focused on planning the improvement of didactic contents with the use of Quizlet.

Regarding **quantitative methodology**, the investigation technique that had been performed is **questionnaires.** The questionnaires were targeted for students of all 1st Baccalaureate courses, and two questionnaires were sent. The first one was sent before the implementation of the Quizlet pilot test, with the aim of knowing the value of the use of digital tools in the English subject, as well as to discover if they had already used Quizlet or similar platforms to learn English vocabulary. The second questionnaire was assigned once the Quizlet pilot test has done, in order to know their satisfaction degree with the application and the positive and bad aspects they consider the program has.

3.2 Participants

The participants of the study were students from the 1st course of Baccalaureate of the Milà i Fontanals Secondary School in Vilafranca del Penedès. In total, the number of participants was 146 students distributed in five groups or types of Baccalaureates: Social, Technological, Scientific, Artistic and Scenic. The ratio of pupils in each group was between 33 and 38 students, but not all of them participated in this case study due to lack of attendance to the lessons or unwillingness to participate.

All the participants in the study have English as an L2, but it is not clear if Catalan or Spanish could be considered the L1 for all of them. The reasons are that some of them were emigrants from European countries and non-European countries, and when talking with some of their classmates or at home, they spoke in their L1 which was not Catalan or Spanish. They all studied English as a foreign language three hours per week as a compulsory subject. However, there was a significant variance in the level of English that all students had, no matter the type of Baccalaureate they were studying. Most of the students had a medium competence i Engnlish and the other half presented real difficulties to follow the English level required by the curricular guide in 1st of Baccalaureate course. Only a few students outstood from the rest of the group, and the ones who did, mainly belong to the Technological and Scientific Baccalaureate.

The gender of the students in this study was not considered, so there was no difference between boys and girls.

In the curricular guide for 1st of Baccalaureate published by the centre, they expose how were structured the contents and the evaluation of English as the first foreign language along the course. The objective of the course was that students accomplished a B2 level in English language, according to the Common European Framework of Reference for Languages (CEFR).

About the teaching method that the Secondary School followed in the English department, it is interesting to point out that in Baccalaureate each course had the same teacher. Or in other words, the same teacher was the one responsible for all five Baccalaureate groups. Applying this

strategy, the English department sought that teachers had a deep knowledge of both contents and students. Hence, the instructors could better custom the curricular planification according to the needs of each pupil.

3.3. Data collection tools

The collection of the data for this study was done using three collection tools: interviews with English teachers, questionnaires to 1st of Baccalaureate students and non-participative classroom observation.

Regarding the **interviews**, they were done with three English teachers at the Secondary School from different courses: 1st of Secondary School, 1st of Baccalaureate and 2nd of Baccalaureate. However, the professional career and the teaching experience of each of the instructors interviewed is considerably different, which contributed to interesting results from different points of view.

The interviews were done at the beginning of this study, before the Quizlet pilot test, with the aim of establishing a first-hand contact with the reality of the Secondary School, as well as to gather information about the methods and strategies that were implemented to teach the English subject.

The elaboration of the questions from the interview was made following the indications given by Hernández-Sampieri (2014). The questions were structured in four variables object of study. Each variable responded to a section of questions, from more general or introductory questions to more specific ones. It was a semi-structured interview, with closed and open questions. Although the interview followed a script, there were questions that maybe would be expendable depending on the answers that teachers were given. There were also questions that looked for an open answer, after a personal reflection of the teacher.

The interview was divided into four variables: training and use of digital tools from English teachers (V1), the use of digital applications in the English class (V2), the academic performance of students using digital resources in the English class (V3) and knowledge about Quizlet tool (V4.). Three questions about instructors' perceptions, training, and use of digital tools were asked in variable V1. Regarding variable V2, there were two main questions with subsections. The queries were focused on knowing the use, or not, that teachers applied on digital tools to teach English subject as well as the English vocabulary. Variable V3 collected questions related to the results obtained with the use of these digital tools in the English classes (questions made in case the answers from variable V2 were affirmative) and if the use of digital tools improved the academic performance of the students in the English subject. Lastly, questions of variable V4 concentrated on specific questions about Quizlet, where teachers were asked if they knew or were already using Quizlet to teach vocabulary in their English classes and to find out whether they think it would be feasible to use them in the future. There is one last question provided to

close the interview, where teachers could apport any comments they considered about the interview done.

The second data collection tool used after the interviews was the **non-participative classroom observation.** To create the design of this tool, the researcher was inspired by Estaire (n.d.). The researcher designed an observation sheet structured through the activity of the teachers and students during the different stages of the lesson. The central part of the sheet was descriptive and the blank spaces on the right and the left were reserved for comments. During the classroom observation, each of the central blocks was filled with a brief description of the activity that teachers and students were developing in each stage of the class. Then, comments on each stage of the class were written in the left blank space (aspects that worked well) and in the right blank space (aspects that should be improved). These comments covered aspects related to students and to the teacher, the materials and resources used, how tasks were planned, etc. From all the data collected, a report was elaborated with all the details and comments noted during the observations, in order to draw conclusions that helped the researcher to proceed with the planning of the didactic proposal with Quizlet.

The last tool used was **questionnaires.** There were two online questionnaires, both self-administrated (Hernández-Sampieri, 2014, p.233) that were sent via e-mail to students using Google Forms. Both questionnaires were anonymous and were answered individually. The **first questionnaire** was sent before doing the Quizlet pilot test. The goal was to value what students think about the use of the digital tools that nowadays are used in their English lessons to learn vocabulary, as well as to know their attitude in front of the use of online tools such as Quizlet. The questionnaire was composed of thirteen questions divided into two sections. In the first section, students were asked about how the vocabulary teaching in the class was done and how they process all that knowledge. One of the questions was about whether they used online tools such as Quizlet, Kahoot, Quizziz...to practise and study vocabulary in the class. Depending on the answer, they had to move forward to one question or another. In the second section, they were asked about how they study the vocabulary learned in the class at home, and their preferences about using or not digital tools to do it.

The **second questionnaire** was directed to students once the Quizlet pilot test was finished. The aim of this questionnaire was to have an overall view of the opinion that students had of the use of Quizlet. They were asked about the aspects they liked the most and the aspects they liked the least or they consider needed to be improved in Quizlet. They also had to respond if they had used the vocabulary unit practised in the class to revise vocabulary for the exam at home. The last question sought to discover if students would like to always practice and revise vocabulary with Quizlet tool.

3.4. Data collection process

The first data collected was interviews with teachers. The three interviews were done in Milà i Fontanals Secondary School during their break time. All of them were conducted the last week of February during the practicum placement. Before starting the interviews, the researcher explained to teachers the purpose of the interviews in order to avoid further misunderstandings. The interviews were not recorded nor filmed, so there was not necessary to sign any permission. The interviewer was limited to take notes about the answers and comments that the interviewees contributed, as well as about other aspects that could be of any importance.

The non-participative classroom observation took place during the first days of March, and before the beginning of the autonomous period of placement of the researcher of this study. There was attendance to one lesson for each Baccalaureate group (as mentioned in the 3.2. Participants section, there were five groups of Baccalaureate). The researcher informed the teacher about the purpose of the observation, and there was no impediment or disagreement on that part. The teacher also considered better explaining the groups the observation the researcher was conducting, in order to avoid distractions or misunderstandings. Students showed respect and they did not present any sort of inconvenience. Same to the interviews, there was no use of video cameras or recorders to register the non-participative classroom observation, only the tool explained in the previous section was used.

Regarding the questionnaires, the first one was done during the first week of March. At that time, the researcher had already started the autonomous period of the placement but not still the Quizlet pilot test. It took around one week to collect all the answers, and not all students participated in the questionnaire due to personal reasons that were unknown to the researcher. While students were completing the questionnaires, the researcher was present in the classroom to solve doubts about it or to help students with any technical issues. The second questionnaire was conducted during the first fortnight of April. In those days, the researcher of the study had finished the practicum placement, so the teacher of the groups was asked for managing the questionnaire instead of the researcher. The teacher totally showed predisposition to do it and she gave instructions to students on how to do it. The researcher facilitated the link to the questionnaire to the teacher and both established contact during the following weeks to comment on the advance of the responses.

3.5. Analysis of data

As said in previous sections, the methodology used in this study is both qualitative and quantitative, so the results were presented in different ways.

From the qualitative methodology, there was data coming from the interviews and from the non-participative classroom observation. Concerning the interviews, it was used an open codification and non-numeric codification, as mainly questions were related to open answers. Each item was

classified according to the variable's classification (V1, V2, V3 and V4 explained in 3.3 Data collection tools section) of the interview on the left column. The mid column was reserved to write down the answers from the English teachers and the right column was destined for annotations about other aspects noticed during the interview that could be significant for the study.

Regarding the non-participative classroom observation, results were non-numeric codified, as it also happened with interviews. Each of the items observed during the development of the class was categorized and written down in columns (see section 3.3 Data collection tools to find out its design). The researcher of this study took notes about the impressions and perceptions all along the lesson, which means that basically the results are based on subjectivism.

The last tool used in this study was questionnaires, which belong to a quantitative methodology. In both questionnaires, the results were measured with the rating scale Likert through percentages and with an open codification. The two of the questionnaires presented questions that were totally open-answers, and others that required a precise answer. Hence, different strategies were necessary to properly analyse the data provided by this type of approach.

4. Quizlet pilot test

The pilot test was conducted for one week, from 20th of March to 25th of March 2022 and it was performed in the five groups of 1rst of Baccalaureate.

The Quizlet vocabulary unit was created with 60 words from units 1 to 6 from the book Citizen B1+ Cambrige, the one that students were using during the course. The unit also contained words extracted from other activities done during the lessons, such as listenings, oral presentations or videos. The vocabulary set was created using this specific vocabulary because students had a vocabulary exam the week after the Quizlet pilot test.

The test started with students working individually in the 'study' sets. They were given 30 minutes to do that part. They could decide to work on the set they would like to, although they were recommended to start with the ones destined to study the vocabulary ('flashcards', 'learn, 'write' or 'spell') and then, moved to the fun-based games ('match' or 'gravity'). Once this part was finished, they started Quizlet Live. This part of the test was done in groups, as it worked as a competition, and took around 15 minutes. All the students had to access the website[2] and they had to type a random code created by the application. Once inside the game and previously registered with a real name or nickname, the application created different teams randomly. Students were given 2 minutes to gather in groups and prepare their laptops or mobile phones to start the competition. They played multiple times with the aim of practicing as much vocabulary learned as possible. Moreover, and in all groups, this was the part of the game where they showed more motivation and engagement, and they were asking to play again and again.

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[2] www.quizlet.live

In two of the Baccalaureate groups (Scientific and Technologic), the activity had an extension on Padlet website *(see Appendixes 1 and 2)*. The activity consisted of producing sentences with the vocabulary learned in the Quizlet test. They had to work in groups of four or five students, and each group had to post a minimum of one sentence per member of the group. Students were informed that the teacher would select some of the sentences to be part of the vocabulary exam. All the sentences remained posted in Padlet until the exam day, so all students could take a look at it and revise or study the content.

5. Results of the study

The results of the interviews with English teachers, the classroom observation and both questionnaires are presented in this section.

Regarding the interviews, the answers to V1 were homogeneous. The three teachers interviewed agree that the use of digital tools in the educational sector offers benefits for both parts implicated in the process, teachers and students. Nonetheless, the critical point is to limit which is the appropriate use of them when used in the classroom. None of the teachers had any difficulty when implementing technology in the classroom nor they received any sort of training on how to use them except two of the teachers that received some basic training when they were studying their Master's degree in Teacher Training. When asked about the use of digital platforms to teach English in the classroom (V2), two of the teachers said they use some of them. Some examples provided were Kahoot, Moodle, YouTube, etc. One of the teachers interviewed said that she did not use any sort of digital tools because she considered the results of using them would be more effective in younger students, not Baccalaureate pupils. Answers to V3, the academic performance of students using digital resources in the English class, were quite similar between the three teachers interviewed. They agreed that these types of tools help to catch the attention of the students that do not pay enough attention when teaching in a traditional way. Moreover, they could not confirm that there was a better academic performance when using technology as they did not have enough data to give an appropriate answer. They concluded that good students are good students no matter the type of methodology used for teaching. Lastly, when asking them about their knowledge of Quizlet (V4), none of the teachers knew about it nor used it. They also said that they consider the possibility of using Quizlet for teaching English vocabulary. At the same time, they said there is a lack of time in terms of planning lessons and organising didactic content. Therefore, the incorporation of tools such as Quizlet is not finally implemented.

About the most relevant results of the non-participative classroom observation when teaching vocabulary in English:

- Students showed more attention to the vocabulary tasks when this vocabulary was presented through digital platforms such as Youtube. They were in silence, they were focused on the task requested and solved it fast and easily.

- When learning new vocabulary through the readings or different activities present in the Citizen Book, most of the students did not do the task requested. They were distracted and did other things non-related to the development of the lesson such as looking at their mobile phones, talking with classmates, etc.

- In one of the lessons, students did an oral presentation about Banksy's pictures. The teacher gave a list of interesting vocabulary that the students used during their presentations. Most of the students did not take note of it in their notebooks or books, even though being warned that this vocabulary could appear on the exam.

Concerning the results of the questionnaires, it will be first presented the main relevant points about the **first questionnaire** done to First Baccalaureate students before the implementation of the Quizlet pilot test. This questionnaire was answered by 147 students out of 177, which represents 83% of the total number of students from all six courses of First of Baccalaureate.

97% of the students said that teachers mainly rely on the Student's Book Citizen Z to teach English vocabulary. Secondly, vocabulary comes from listenings and videos. They incorporated this vocabulary in their acknowledgement by taking notes in their Student's Book (62,5% of the students) and in their notebooks (55,1% of the students).

When they were asked about what difficulties they had when learning vocabulary in English, more than the half of the survey respondents said that they were not capable of memorizing new words that are taught, and, in addition, they did not know how to use the new vocabulary in a real context. For instance, when they had to produce a sentence.

To the question if they had used digital platforms to learn and practice vocabulary in the classroom, the results of Figure 3 showed that most of them had used at least one digital app to learn vocabulary during their scholar life.
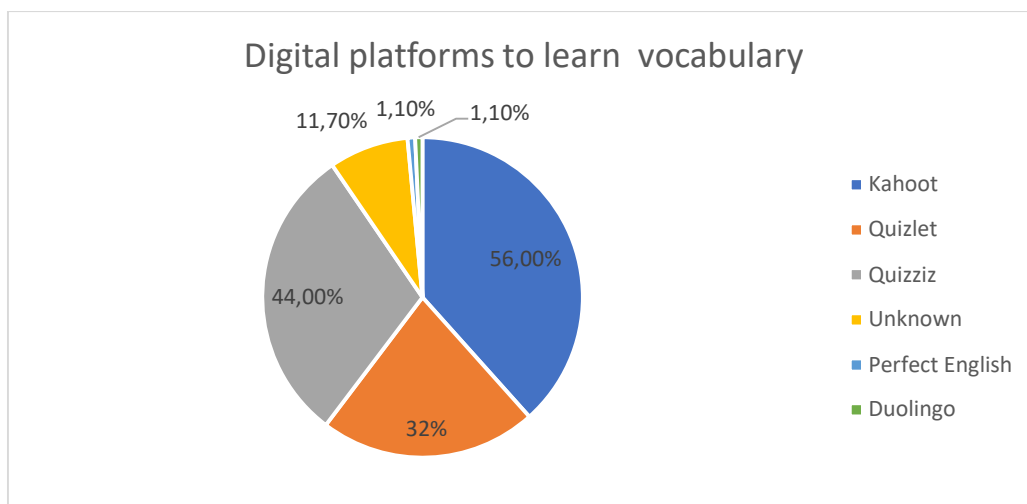

Figure 3. Digital platforms to learn vocabulary

Related to the same question, 46,9% of the students valued their experience when using them as very positive and satisfactory. The main reasons why they valued so positively learning vocabulary with digital apps are presented in Figure 4.
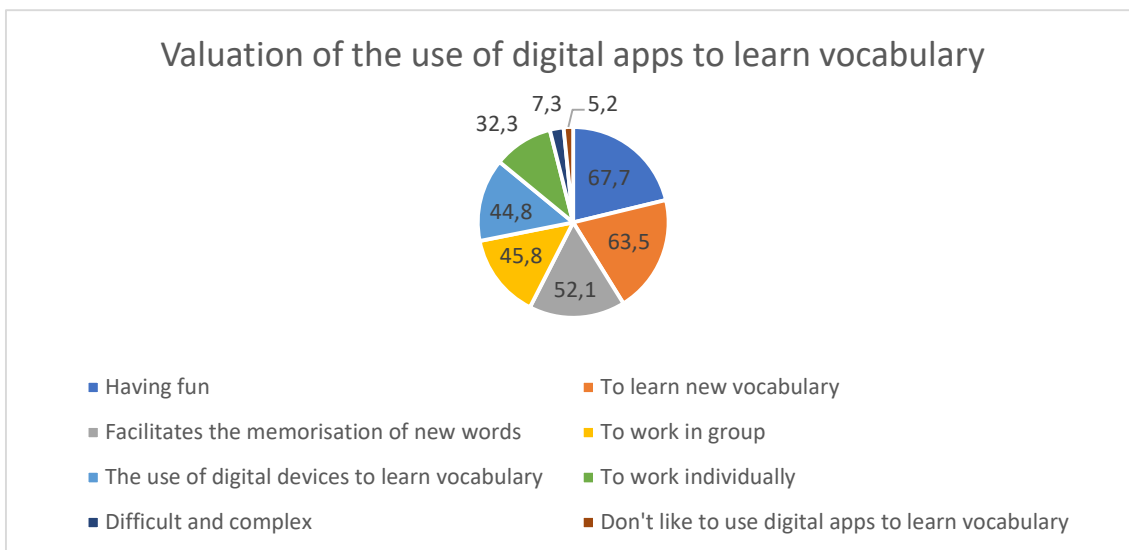

Figure 4. Valuation of the use of digital apps to learn vocabulary

Having fun was the reason students liked the most when working with digital platforms for learning vocabulary (67,7%). It is followed by the perception that using digital apps also helped to learn new vocabulary (63,5%), as well as facilitated the memorization of new words (52,1%). Only a few students answered they find difficult and complex the way digital apps work (7,3%) and other students also said they did not like to use digital apps when learning new vocabulary (5,2%).

Concerning the **second questionnaire,** 77 students answered it out of 177, which represents 43,50% of the total number of students from all six courses of 1st of Baccalaureate. The questionnaire was answered after the performance of the Quizlet pilot test. In the following lines, it will be presented the main points extracted from the results.

In Figure 5 there are the results related to the overall feedback students have once used Quizlet.
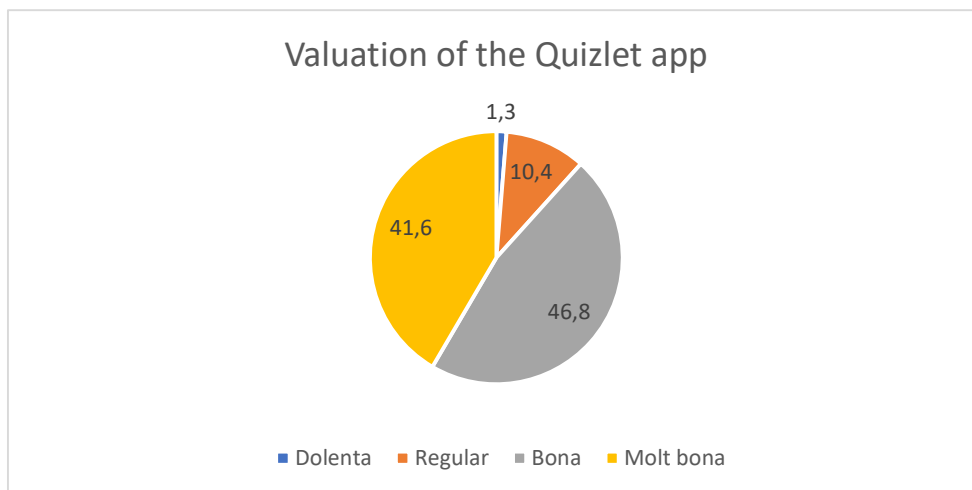
Figure 5. Valuation of the Quizlet app

As it is shown in Figure 5, 46,8% of the students thought that Quizlet was a good application for learning vocabulary. Some of the aspects that students liked the most about the platform were:

- Quizlet is a dynamic, fun and entertaining application and makes it easier to learn and revise vocabulary.

- It helps in memorising concepts and new words.

- It was easy and simple to understand how the platform works, a practical way to study.

- The possibility to work in groups and have a game-based experience.

Students were also asked about the aspects they did not like about the application, and the general comments said that almost all aspects were positive. However, few students said that the next aspects could be improvable:

- There was not enough vocabulary or questions to be answered.

- The vocabulary exam consisted of several 'fill in the gaps' exercises plus others where you had to produce a sentence with the vocabulary learned. In Quizlet, the exercises only consisted of matching words with their definitions, no real examples like the ones found in the exam were given.

- The definitions or translations of each vocabulary word were in English, not in the L1, and this made that some of the meanings were not understandable enough. Students requested a bilingual translation English – Catalan.

When asking students whether they have used Quizlet to revise vocabulary at home in order to prepare for the exam, 66,2% of the students said that they used it. And they also added that it

was an aid to better memorize the vocabulary if we compare it to the traditional methods such as books or notebooks.

Finally, 89,6% of the students affirmed they would like to always study vocabulary with Quizlet from now on.

6. Discussion of the results

The correlation between the current research, objectives and the research questions of the present study, leads us to believe that the use of Quizlet could bring interesting actions and strategies that could be followed to engage students when learning English vocabulary.

First of all, going back to the objectives of this present study, it could be confirmed that both English teachers and students showed interest to use digital platforms to teach vocabulary. As a matter of fact, they were already relying on technologies to teach English subject as they confirmed in the interviews, and they were willing to grow its incorporation if needed in the future. Teachers saw digital resources as elements that could bring interesting benefits to students, as their motivation and engagement got higher when they were using them.

Moreover, the objective related to the possibility of establishing a vocabulary content proposal with Quizlet at the end of this study case was accomplished. The different methodologies, both quantitative and qualitative, used in the study to collect the data to reach the corresponding results were effective, and gave sufficient information to draw the final conclusions.

From the student's perception, the use of technology when learning English vocabulary was something they appreciated and were pretty used to work with. At the same time, they valued very positively the introduction of these methods in the planning of the lesson content because it offered them the possibility to enjoy a more flexible and dynamic study environment. These results were aligned with the principles known as informal learning (Fischer, 2000). One of the foundations of this theory implied the free access to the units of study outside of the educational traditional placement, for instance, when studying at home. With the vocabulary set created in Quizlet, students could have access to it from home, and that is what the most part of students confirmed when they opted for choosing Quizlet to prepare for the vocabulary exam.

Another aspect that was noted in the theorical framework was the fact that digital applications, such as Quizlet, foster and facilitate cooperative work. The results reasserted this statement in the way that students did well with the group work that Quizlet offered and was one of the aspects they positively ranked in the questionnaires.

The present study has also analysed the fact of gamification, and the defence of including the use of games as an educational resource (Piaget, 1961 & Vigotsky, 1933;1966). Looking at the results of the study, it could be confirmed that working with fun-based games such as Quizlet was strongly appreciated by students. Actually, students emphasised that having fun and working in

a dynamic environment was one of the advantages that Quizlet offered compared to other traditional study methods. That is to say, this point could become controversial whether having fun while studying means not paying enough attention to the content of the study unit. Knowing the existence of this risk, the creation of Quizlet vocabulary set was created following Bloom's taxonomy framework (Anderson,2009). The results of the study could determine that having this theorical reference as a guide to design the vocabulary unit was a major aid to achieve that students not only had fun while experimenting with Quizlet, but they also had accomplished pedagogical objectives such as having better retention of new words and concepts.

Referring to the strategies that were used to create the Quizlet vocabulary unit, the corresponding literacy provided different aspects that were considered in terms of how the vocabulary set was organized, the importance of word repetition, the election of random words that had no reference to any specific context and the non-use of translations between English and the student's mother tongue. Analysing the results that correspond to this part of the study, some of the hypothesis that were formulated at the beginning of the study did not succeed in the end. The potential reasons why are outlined as follows:

- Students complained about the fact that some vocabulary was not understandable, and not having a translation in their L1 made them get stuck in some of the exercises. In this study, it has been defended the position of giving no translation because two words could have the same meaning, but a different use depending on the context. Given the results, it could be now confirmed that probably this situation could have been solved by giving students the translation in Spanish of the words that could have more than one meaning or by giving them some context to facilitate the guessing of the significance of the words.

- Some of the survey respondents said there was not enough vocabulary or questions to be answered. It has to be said that the Quizlet vocabulary set included the 60 words that students needed to study for the exam, and they were informed about that. Having said this, maybe what students were complaining about was that there was not enough vocabulary repetition throughout different types of exercises. It is necessary to mention that the activities that Quizlet proposed have a clear aim, which is the drill and repetition of the content. In consequence, students could achieve proper assimilation of the vocabulary as it was already supported by the theories included in this study. Nevertheless, this was a doubt that remains open, as it could not be possible to contact students to really understand what they were referring to once the placement period was over.

- Another aspect that could have been improved when preparing the Quizlet vocabulary set is the fact that students requested exercises similar to the ones they have found on the vocabulary exam. In the Quizlet unit, there were activities based on matching words with their definitions, guessing the meaning of some words, selecting the correct meaning of the word… In the exam, students had to create sentences with the vocabulary learned

and do fill in the gap exercises. The design of the Quizlet unit was supported by the idea of submitting vocabulary in word lists (Clipperton, 1994; p.743) that enhance drill and repetition (Sökmen,1997). Once showed the results, it was demonstrated that were not properly aligned with the sort of vocabulary exam that students had to face. However, it has to be considered the fact that when the Quizlet unit was designed there was no information received concerning the type of exam that students will have. Thus, the creation of the vocabulary set was done following the best strategy it could be considered by the theoretical principles that advocated for successful results when learning vocabulary with digital applications.

It was consistently proved that the use of digital tools motivates students, as well as fosters their predisposition to work and collaborate when doing class tasks. The results presented from the classroom observation led to understand that some of the vocabulary exercises planned with the use of traditional methods (books or notebooks), provoked the distraction of a part of the students. When these students were using technology to do the tasks assigned, they found it more entertaining and thrilling, and their motivation spirit raised considerably. Despite this, the present study has not shown enough evidence that this increase in motivation had a direct effect on the better academic performance of the students. In fact, the results showed in the teacher's interviews indicate that, from their point of view and professional experience, the students that had a regular or bad academic file in the English subject did not improve their marks when the use of digital tools gained prominence. Yet, teachers confirmed that they had experimented a switch on students' behaviour as they moved from a passive attitude to an active attitude. In short, brilliant and smart students would remain that way no matter the sort of methods (traditional or digital) will be used for teaching, and the opposite situation happened with students that have low academic achievement. Furthermore, and referring to studies and theoretical references that have been brought to give some light to this aspect, there were not found reliable sources that could determine a direct correlation between the use of technology and the improvement of academic performance.

Lastly, it will be presented the study limitations that should be taken into consideration. It would have been interesting to have more time to extract more precise and detailed results. It is to be reminded that the production of the methodology section of the study has been done in one week. Moreover, only one Quizlet session with each group was conducted. Hence, this affects the fact that the conclusions are not to be generalized, since they are very specific and only valid for this present study. Another limitation to be considered is that the Quizlet pilot test was only performed with 1st Baccalaureate students. These were the external conditions when the elaboration of this study was set up. It would have been very interesting to access a wider and more diverse sample of participants, for instance, Secondary students. Surely the results would have been richer, diverse and segmented by the different students' profiles.

7. Conclusions

This study has aimed to confirm whether the use of technology and digital applications influence students' behaviour, in terms of increasing their motivation, attitude and predisposition in a classroom environment when learning English vocabulary. Secondly, the study has also checked the effectiveness of one of the trendiest tools that currently is used to learn and teach vocabulary, Quizlet. The effectiveness was measured in terms of acquiring more vocabulary knowledge than doing it with the use of traditional methods such as books, notebooks or listenings.

The main conclusions that this study has reached confirm that digital tools, and more precisely Quizlet, boost student engagement. When working with technology, students felt motivated and they became active players in the classroom. All these benefits had a direct effect on the lesson's pace: students' behaviour got better, their attention rates got improved and consequently, the learning process was deeper and more effective.

Quizlet is a fun-based application, which follows the main principles of gamification. Results about students' perceptions of learning vocabulary with digital platforms were positive and well valued. They appreciated the dynamism of the application, as it makes learning and practicing with new vocabulary becomes more fun and entertaining. At the same time, they affirmed that Quizlet helped them to easily memorize new words. This led the researcher to draw the conclusion that memorization ratios were higher compared with the methods that were used until then (mainly Student's Book and student's notebooks). Moreover, the functioning of Quizlet caught the attention of demotivated students, those that normally did not pay enough attention in the classroom. Their behaviour completely changed, and they showed interest and participation in the development of the lesson.

However, the present study also draws conclusions that were not so optimistic in terms of students' academic performance. The success of learning vocabulary with Quizlet has not shown the equivalent and positive results in students' exams. Those that accumulate low marks kept on having the same outcomes in the vocabulary exam that came after the Quizlet pilot test. That is to say, this study could not enough prove that working with digital platforms provokes an improvement in the curricular file of the student.

In conclusion, it could be confirmed that technology plays a major role in the educational sector, and its incorporation is key to offer new learning possibilities. Quizlet has demonstrated to be an effective tool in terms of learning, practicing and revising vocabulary. Thanks to its content development and learning method, it could be achieved levels of motivation and engagement that are difficult to obtain in other pedagogical methods. However, there is still a long way to conclude whether its use could bring about deeper changes that could positively impact the evolution and development of the student's academic achievement.

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9. Annexes

Appendix 1

Sentences produced in Quizlet by 1st of Baccalaureate Technologic group
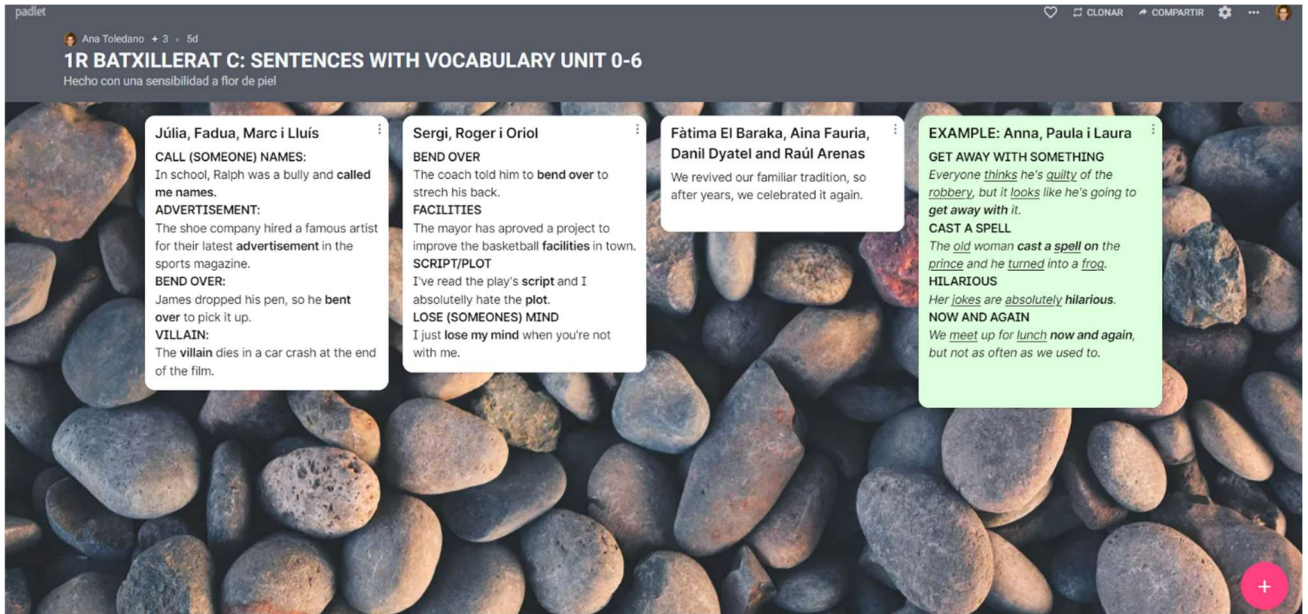
Appendix 2

Sentences produced in Quizlet by 1st of Baccalaureate Scientific group