Young Learners and EFL Learning: The Impact of Digital Games on Language Learning in a Multimodal Environment

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ABSTRACT

Digital Game Based Language learning (DGBL) has recently been a popular topic of discussion as the benefits of the use of digital games for educational purposes are multiple. Games are considered suitable for language learning because they are motivating and they foster foreign language interaction. This dissertation examines the implementation of a series of digital board games and their impact on learners’ speaking and communication skills, their vocabulary acquisition and their social and cooperation skills. Also, it seeks to examine if there is any relationship between the learning environment, which is affected by the use of digital games, and learners’ performance in speaking. A group of seventeen intermediate level students participated in the survey and they went through a series of digital board games during a period of two months. The effectiveness of the games on their learning was measured though pre-tests and post-tests, implemented in the beginning and at the end of each game, short interviews, conducted before and after the implementation of the games, and a questionnaire examining learners’ perceptions about the games. The findings indicated that learners were assisted by the games, particularly in their vocabulary acquisition and their speaking skills, in general. Also, the learners perceived a pleasant and stress-free environment, where they could be motivated for learning.

Key words: Digital Game-Based Learning (DGBL), digital board games, Second Language Acquisition (SLA), speaking skills, cooperation, motivation, young learners
INTRODUCTION

The wide spread of online games particularly among children and teenagers and their popularity in these ages have motivated educators to incorporate digital games into their teaching and use them for educational purposes. Recently, there have been available online different types of digital games, which aim at promoting second or foreign language acquisition.

Digital Game-Based Language Learning (DGBLL) has been closely linked to Computer Assisted Language Learning (CALL) as the design of the games is affected by the CALL theory (Cornillie, Thorne, & Desmet, 2012). It is quite important that DGBLL includes games that are specifically designed for L2 acquisition and games that are not designed for this purpose (Cornillie et al., 2012). In both cases, games can be grouped into separate categories according to their elements and the benefits they offer (cited in Cornillie, Thorne, & Desmet, 2012). For instance, games can be categorized in those that promote interaction, enjoyment, problem solving, rules, goals or fantasy.

Moreover, digital gaming has been assumed to provide motivation to learners of a foreign language and, also, pleasure as any other kind of playing. Gaming environments are associated with task-based language teaching approaches (TBLT) and thus they engage learners in a goal-directed process which involves meaning-focused language use that results in some outcome and in the completion of a language aim (cited in Cornillie, Thorne, & Desmet, 2012). It is quite significant that through their involvement in gaming environments, learners set individual aims and thus they reduce their stress during the learning process and promote their self-efficacy.
Several researches have been carried out measuring the impact of digital games on foreign language education. Sykes and Reinhardt (2012) summarized some of the benefits of the digital games in language learning. First, computer games are learner-oriented and the goals set are dynamic and related to the learning objectives. Another advantage is that computer games provide instant and individual feedback to learners (Sykes and Reinhardt, 2012). Additionally, computer games provide suitable and meaningful context for learning and interaction opportunities both, during the game and after it (Sykes and Reinhardt, 2012). Finally, motivation is one of the most widely admitted advantages of computer games in language education.

The particular dissertation was designed to measure the impact of digital board games on learners’ communication and speaking skills, their vocabulary acquisition and their social and cooperation skills. Additionally, the study examined the relationship between a pleasant classroom environment created by the digital games and the speaking performance of the learners. Four digital board games were designed for the purposes of the survey, based on the students’ coursebook. Seventeen participants took part in the survey, which lasted for about two months. First, every participant went through a short interview in the beginning and at the end of the survey. The interview questions were all relevant to the vocabulary and grammar structures practised in the games. The interviews were evaluated by the conductor of the survey in terms of 1) lexical resources, 2) fluency and coherence, 3) pronunciation, 4) grammar accuracy and 5) comprehension. Also, the participants completed a pre-test and a post-test, testing vocabulary and grammar, before and after each game. Finally, after the end of the survey, all participants were asked to complete a questionnaire, investigating learners’ personal beliefs about speaking English, their perception of their improvement through games and their impression about the games and the climate in the classroom.
The dissertation comprises six chapters. The first chapter concentrated on the general notion of Computer Assisted Language Learning, some theories related to it, its advantages, as well as, students’ and teachers’ roles. Chapter two focused on Second Language Acquisition (SLA) theories and how some of them support the digital games in foreign language learning. Moving on, the third chapter includes the role of gaming in foreign language learning, the impact of digital games in foreign language acquisition and the importance of motivation and positive emotions in learning. The fourth chapter is a description of the procedure of the survey and it examines the participants and the setting, the instruments used and the games designed for the study. Moreover, chapter five is the presentation of the results gathered by the pre and post tests, the personal interviews and the questionnaire, statistically analyzed using SPSS. Finally, the sixth chapter is a discussion of the results, presenting the limitations of the study and some further suggestions for future studies.
CHAPTER 1: COMPUTER ASSISTED LANGUAGE LEARNING

Technology and its affordances has become an inseparable part of current life. New technologies are rapidly evolving and affect daily life in every aspect. Technological advances influence communication, as distance barriers are being overcome and instant communication is achieved. The access to information has become immediate and very easy. This development of technology has a great impact on education, as well. Computers and even mobile devices have become an integral element of many classrooms and are claimed to facilitate the learning process.

Much research has been conducted on the integration of new technologies in the learning and teaching process. However, since technology is by nature a constantly changing domain, research alters and evolves in a rapid way, as well. Researchers have been concerned with the insertion of technology in education and many issues have arisen relevant to the advantages and barriers of these technologies and the role of the students and the educators in the new digital environment. Technology has, also, influenced the domain of foreign language acquisition (FLA). Many terms have been provided to describe this insertion of the new technologies in language learning.

1.1 CALL: Definition and Characteristics

Computer-Assisted Language Learning, briefly known as CALL, is a dominant term used to describe the use of technology in learning. A broad definition of CALL as “any process in which learner uses a computer and, as a result, improves his or her language” is used by Beatty (2013). CALL is a quite complicated concept and it encompasses “issues of
material design, technologies, pedagogical theories and modes of instruction” (Beatty, 2013).

Many other terms have been associated with the use of technology in foreign language teaching. For instance, Computer-Mediated Communication (CMC) refers to computer-based communication and it facilitates language learning. Another term used in the literature is Task-Based Language Teaching (TBLT), which, in many cases, is technology-mediated. The term Information and Communication Technology, (ICT) has, also, been broadly used in the field.

ICTs have been introduced in education and they provide educators and learners with a great deal of benefits. Technology enhances the quality of learning by a number of means. As it is stated in Ghasemi and Hashemi (2011), “a diverse set of technological tools and resources is used to communicate, and to create, disseminate, store and manage information”. There is a variety of instructional tools employed in language tasks and activities which include software and hardware materials. Additionally, as distinguished in Esch and Zahner (2000), the materials used in CALL classrooms may be either communication and information technologies for general purposes or materials specifically designed for pedagogical purposes. Computers, the Internet, text processors, emails, teleconferencing, broadcasting technologies, games and applications are only a few of the technological materials employed in language learning.

1.2 Advantages of CALL

The integration of ICTs in the language classroom has promoted meaningful learning. Learners are able to use the foreign language in real life authentic contexts. For instance, they have the opportunity to communicate, interact and practise the target language with native
speakers. Moreover, technology promotes students’ familiarization with culture, a very significant element in foreign language learning. Due to the instant access to information, students have the ability to enhance their cultural knowledge in fascinating ways. Additionally, ICT promotes “interactive teaching and learning styles and provides many opportunities for creativity” (Ghasemi & Hashemi, 2011). Technology stimulates learners’ interest and brings them in the centre of the learning process.

In a language classroom, technology is considered to foster all four skills: listening, speaking, writing and reading. Learners are exposed to a great amount of information and they need their critical thinking in order to select and process it appropriately. What is more, technological means assist learners to “use a wide range of strategies to explore contrasts, comparisons and connections dynamically” (Ghasemi and Hashemi, 2010). Also, learners can “save, record, edit and adapt their work quickly and efficiently” (Ghasemi and Hashemi, 2010). During the learning process, students foster their creativity and their self-esteem and they learn how to interact and collaborate with their partners.

1.3 Learners’ and Teacher’s role in a CALL environment

However, it is commonly agreed that the insertion of technology in the language classroom demands the adoption of a certain teacher’s and learner’s role, different from the roles in the traditional classes. ICT classes cannot be just replicates of their conventional language counterparts. Classes need to be learner-centered and teachers should function as facilitators and guidance of the teaching process.

There is no doubt that learners should possess an active role in a CALL environment. Esch and Zahner (2000) have characterized students as the “agents” in the CALL classroom,
whereas ICTs function as “tools”. So, learners need to think critically in order to be able to “analyze their potential in terms of specificity and of their own requirements, test them, then build them gradually into their language learning environment” (Esch and Zahner, 2000). The critical participation of the learners is, also, engaged in Hampel and Hauck (2006), who use the concept of multimodality. ICTs have provided us with the opportunity to select and combine different modes, such as text, audio and graphic, to make meaning. According to Kress (2000), language can be characterized as “independent meaning-making systems, which are however co-ordinated so as to produce a single […] integrated and differentiated text message.” Thus, learners need to develop their multimodal communication competence in order to be able to take advantage of the technology affordances and select the most suitable ones to make the desired meaning.

Another key characteristic of the integration of the ICTs into the language classrooms is learners’ autonomy. First of all, when using technological tools, learning becomes more individualized and learners have the opportunity to learn in their own pace or style. As Beatty (2013) indicates “CALL can present opportunities for learners to study on their own, independent of a teacher”. Fuchs, Hauck and Muller-Hartmann (2012), also, stress the element of autonomy in computer mediated language learning as they indicate that “the use of Web 2.0 tools and environments such as wikis, blogs, and forums in the classroom not only offers unlimited authentic sources and target language speaker interaction but can, also, increase learner autonomy”. Particularly, Fuchs, Hauck and Muller-Hartmann (2012), consider the role of Telecollaboration 2.0 in learners’ potential for autonomy, as through this affordance they can develop “language proficiency, intercultural communicative competence, and multiliteracies”. Of course, educators should possess the required skills in order to support language learners in their attempt to use ICT tools and accomplish learning autonomy.
Teachers, on their part, need to be able to use technological affordances and give “individual and personalized guidance to the learners” (Kumar & Tammelin, 2008). This means that language teachers acquire the possibility to adapt the teaching materials to the learners’ different learning styles, needs and preferences. Learning needs to be individualized and accessible to every student. In addition to that, teachers need to teach learners strategies that will help them decide on the useful information. Since the amount of the information available on the Internet is vast, learners need to “be skilled in selecting, accessing, evaluating, organizing and storing information” (Ghasemi and Hashemi, 2010). Teachers should not just replicate their traditional teaching practices electronically, but they should adjust them in the new conditions. To conclude, as Ghasemi and Hashemi (2010) indicate, educators must “reflect critically on the context of learning, the methods, the students, the teacher’s own computer literacy and other matters pertaining to digital literature”.

1.4 Materials and CALL

Much research has been done on the issue of CALL and material design assessment. In many cases teachers possess the role of the material designers and they are requested to design CALL materials and lesson plans. This task is quite tough for teachers especially when they have limited experience with CALL software. A quite important principle that teachers need to bear in mind when they formulate their materials is that “the development and use of CALL is different from that of textbooks, workbooks, videos, and other materials for language teaching (Chapelle, 2010). Chapelle (2010) drawing from Tomlinson (2003a) summarizes some of the most important principles for evaluating CALL materials. According to these principles, materials need to have an impact on students and be appealing to them through their content or their presentation. What is more, they need to expose students to
authentic material in order to stimulate their mental response. Finally, materials should attract learners’ attention to the linguistic features of the input.

As CALL is a growing current phenomenon, many researchers have been engaged with its evaluation. The assessment of the method began with the comparison between the output of classroom which incorporates technology and those that do not (Chapelle, 2010). However, this method was considered non-satisfactory and new approaches needed to be followed. Researchers are looking for positive qualities in order to assess CALL tasks. For instance, authentic language, interaction between the learners and the computer or the learners and other interlocutors and learners’ noticing and negotiation of meaning are some of the criteria that characterize technology assisted language tasks as efficient (Chapelle, 2010). Since there is a wide range of options available by technology, material designers need to select the ones that best suit learners’ needs and foster their language capacities and their intercultural awareness.
CHAPTER 2: SECOND LANGUAGE ACQUISITION

Second Language Acquisition (SLA) is a highly investigated domain since a number of theories has been articulated through years. These theories have been closely related to the teaching and learning process and although some of them are considered outdated, others have been adapted to the current principles and notions of Second Language Acquisition. SLA theories have a crucial role in language teaching and learning as they determine the methodology and the materials used in the classroom.

2.1 SLA Theories and CALL

It is quite evident that CALL provides many affordances and it can combine many language learning theories in a single lesson. CALL activities can provide learners with opportunities to practise grammar, vocabulary or pragmatics. Moreover, they can instantly communicate with other speakers of the language and be exposed to authentic input. Additionally, feedback is accessed very easily. Digital dictionaries or encyclopedias let students make their own research and reach knowledge on their own.

Moving on, we cannot omit Krashen’s theories as they have severely affected the domain of CALL. Krashen (1982) has defined five central hypotheses that govern Second Language Acquisition (SLA): the Learning-Acquisition hypothesis, the Natural order hypothesis, the Monitor hypothesis, the Input hypothesis and the Affective filter hypothesis. For the purposes of this thesis only some of them will be developed.

Learning – Acquisition

When studying Second Language Acquisition, a clear distinction has to be made between the concepts of acquisition and learning. Language acquisition is “a process similar
to the way children develop ability in their first language” (Krashen, 1982). Students are not aware of the fact that they are learning a language and they learn through using this language. What is more, as Krashen (1982) indicates, acquisition is a natural and implicit process. Thus, language acquisition can be linked to the selection of more implicit teaching materials in the classroom, such as tasks and games. On the other hand, language learning refers to “the conscious knowledge of a second language”. Learners are aware of the parts of the language and they know about the syntax and grammar. The theory of language learning may be linked to the use of more traditional teaching processes.

**Comprehensible Input Hypothesis**

Considering the importance of language acquisition, Krashen attempted to explain how this acquisition is achieved. Krashen (1982) claims that in order to acquire a language we need to comprehend the input we are exposed to. So, students need to receive input that is a step beyond, i+1, their current knowledge. This means that learners are able to achieve acquisition even if they do not know all the structures presented in the input. This understanding is possible because learners do not use only their linguistic competence but also they use “context, their knowledge of the world, their extra-linguistic information” in order to perceive the input. In practice, extra-linguistic information may include the use of pictures, videos, voice tone or gestures, which facilitate the understanding of meaning. So, the Input Hypothesis suggests that “we acquire structure not by focusing on structure but by understanding messages” (Krashen, 1981).

**Implicit and Explicit learning**

Relevant to the Comprehensible Input hypothesis and drawing by the distinction between acquisition and learning is Ellis’ (2009) distinction of implicit and explicit learning. Implicit language learning involves learners remaining “unaware of the learning that has
taken place” and they “cannot verbalize what they have learnt” (Ellis, 2009). On the contrary, explicit language learning is “a conscious process and is generally intentional” (Ellis, 2009). What is important here is how we distinguish implicit from explicit knowledge. As it is discussed in Ellis (2009), implicit knowledge is intuitive and procedural, while explicit knowledge is conscious and declarative. It means that when implicit knowledge is activated learners are able to conceive that there is an error in the input but they cannot recognize the grammatical structure. As far as explicit learning is concerned, learners are usually attentive of the structures used in the input.

**Interactionist Theory**

The concept of interaction is considered quite significant in Second Language Acquisition. According to this theory, supported by Long (1996), learners can achieve acquisition through their participation in interactive tasks where negotiation of meaning takes place. As it is stressed by Fuente (2003), second language learners need to be provided with modified input that is comprehensible to them. Learners are expected to notice the differences between the input they receive and the input they produce in order to turn the input into intake (Fuente, 2003). Positive evidence, “well-formed sentences to which learners are exposed” and negative evidence, “information that is provided to learners concerning the incorrectness of an utterance” promote the production of output (Fuente, 2003). The Interactionist theory has been closely associated with the acquisition of vocabulary, as well, since learners have the ability to notice new vocabulary terms and negotiate lexical meanings. Thus, through their participation in tasks they can gain lexical awareness. What is more, the Interactionist hypothesis is considered a starting point for Computer-Mediated language learning. It is claimed by Blake (2000) that computer mediated interactions promote vocabulary acquisition by fostering interlanguage development. Thus, learners through their
participation in technology-related activities and, specifically games, are able to negotiate the input they receive and promote knowledge.

Affective filter Hypothesis

Another very crucial theory, which is quite relevant with computer-mediated learning and particularly digital games for educational purposes is Krashen’s Affective filter Hypothesis. According to this theory, low anxiety, high motivation and self-confidence are factors that determine the success of language learning (Krashen, 1982). Such “lower filter” conditions can be achieved by including digital games in the learning. Learners, participating in digital games, do not feel judged, so the emotion of embarrassment decreases. There are many studies confirming the impact of digital games on learners’ motivation. For instance, Ebrahimzadeh & Alavi (2016) studied the enhancement of motivation in high school students, who took part in a commercial digital game. What is more, Reinders and Wattana (2015) have found that digital gameplay lowers learners’ affective barriers and increases their willingness to communicate. Other studies, investigating the benefits of digital games used for language learning, have stressed the impact of them in learners’ emotional conditions.

2.2 Connections between CALL and SLA

As CALL is a constantly surveyed topic that has been gradually developed since its advent in foreign language learning in 1960s, it has always been based on different foreign language acquisition theories. Warschauer and Healey (1998) distinguish three separate phases in the early spread of CALL: behavioural CALL, communicative CALL and integrative CALL.
To begin with, behaviouristic CALL is the early stages of the CALL history and began based on the FLA theory of behaviourism. This type of CALL fostered repetitive language drills, known as drill-and-practice (Warschauer and Healey, 1998). In this kind of language learning, the role of computer was that of a mechanical tutor that never “grew tired or judgmental and allowed students to work at an individual pace” (Warschauer and Healey, 1998). The most prevalent example of this method was a tutor system known as PLATO, which “featured extensive drills, grammatical explanations and, translation tests at various intervals” (Warschauer and Healey, 1998).

The next phase of CALL theory was conceived as communicative CALL and it was based on cognitive theories that promoted learning as a process of development and discovery. According to Warschauer and Healey (1998), this theory stressed that “computer-based activities should focus more on using forms than the forms themselves, teach grammar implicitly rather than explicitly, allow and encourage students to generate original utterances” (Warschauer and Healey, 1998) and use the target language predominately or even exclusively. Thus, through this approach to the use of computer technology in education, the teaching objectives move away from mere repetition of language items to the production of more meaningful language that is used in a communicative context.

Finally, the last stage of CALL that Warschauer and Healley (1998) recognize is that of integrative CALL which is based on the multimedia computers and the Internet. Warschauer (1997), also, stresses the importance of hypermedia, which give students the opportunity to follow their own path in the learning process. In this more current wave of learning all skills are integrated as it happens with the actual use of the language and, thus learning is more authentic. Moreover, it is quite important that students design their learning as they follow their own pace, they can go back and forward in the learning material and can, also, stuck to important information and omit the irrelevant elements (Warschauer, 1997).
Despite the initial and basic distinction of the CALL phases, many other CALL studies have relied on different theoretical frameworks. So, many foreign language acquisition theories have affected CALL practices and have been used to interpret the CALL theory. Chapelle (2009) has collected many FLA theories that have been related to CALL investigation.

To begin with, generative linguistics and relevant theories such as the Universal Grammar and autonomous induction theory suggested that language acquisition is a natural process and it is not affected by instruction (Chapelle, 2009). According to these theories, the role of the computer was not that of the instructor, but it only provided learners with comprehensible input following the natural order of development of the grammar structures. However, since these theories support that acquisition is influenced by the learner’s predetermined capacities, material designers focus only on testing language knowledge and providing input (Chapelle, 2009).

Another category of theories that have affected CALL development are psycholinguistic theories (Chapelle, 2009). For instance, processibility theory was used by material designers as it provided a basis for sequencing the teaching of grammatical structures (Chapelle, 2009). Designers of CALL material who rely on input processing theory produce activities and input for learners that focus on noticing of form-meaning mapping and, also, of the difficult aspects of the input (Chapelle, 2009). Interactionist perspectives suggest that the design of the materials should be meaning-oriented and drag learners’ attention on form (Chapelle, 2009).
According to Chapelle (2009), CALL designers were, also, affected by general human learning theories, which support that language learning is a process similar to any other kind of learning. For instance, the associative-cognitive CREED theory suggests that learning occurs through repeated exposure, so CALL designers provide learners with the optimal amount of exposure and input in the target language. Skill acquisition theory has, also, many implications in language learning through the use of technology, since it suggests that learning is the turn of declarative knowledge (to know the rules) into procedural knowledge (using the language) (Chapelle, 2009). In this way, learning becomes more automatic and CALL designers engage learners into systematic input and interaction (Chapelle, 2009).

Finally, another approach to language learning, quite different from the ones mentioned above, is learning in a social context. Thus, the engagement of telecollaboration serves the requirements of the sociocultural theory for language learning. Through telecollaboration learners have the opportunity to communicate with people from other cultures and, thus, much attention is given to the learners’ cultural competence (Chapelle, 2009). Language is used as a means for social practice and learners, who are forced to use the target language, receive feedback from their interlocutors. In the end, language learning is an authentic process and it occurs in a real-life context.
CHAPTER 3: DIGITAL GAMES

3.1 Games in Language Teaching

Using games in Language teaching has been considered as a way of promoting learning and creating effective and relaxing language conditions in the classroom. The use of games in the classroom can take several forms as they may vary from physical games to card games or from crosswords and puzzles to digital games. Many of the theoretical approaches to foreign language acquisition that were examined in the previous chapter promote and suggest the use of games in the classroom.

Tomlison and Masuhara (2009) examining the importance of physical games in language education, summarize six important principles of language acquisition that are commonly accepted and they try to relate them with games in the language classroom. The first principle draws from Krashen’s comprehensive input theory, which suggests that learners need to be exposed to language in a meaningful context. This means that learners should use the target language in a variety of ways in order to acquire it. This can be achieved in a game, where the language input is presented to learners in a meaningful way and, thus, they are more likely to obtain the language item.

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Moving on, a second principle is for the learners to be “engaged both affectively and cognitively in the language experience” (Tomlison & Masahura, 2009). When learners think while they are performing a language task, they are more likely to gain more by the experience and achieve maximum learning. This can be the case in a game where participants are encouraged to think while playing the game, than just absorb knowledge without paying attention to it. The emotions experienced during the language learning are, also, considered to have a significant role in language acquisition. “If the learner is experiencing positive affect
in the sense of being confident, motivated and willingly engaged”, emotions that are more likely to be felt during playing, there are more possibilities to learn better.

Another principle for language learning admitted by Tomlison and Masahura (2009) is the value of positive affect. This means that learners need to experience positive feelings about the target language, the learning environment, the teachers, the materials and the classmates. Games have a very significant role in creating such an environment for learners, as they help them feel relaxed and enjoy their learning (Γρίβα & Σέμογλου, 2015).

According to Tomlison and Masahura (2009) language learners can, also, be benefited by using in the second language the same mental resources that they normally use in their native language. Namely, such resources are inner speech, mental imaging, experiences from their real life or personal interpretations. This real-life learning could be achieved through games where the learners normally are not clingy to decoding the linguistic features of the language (Γρίβα & Σέμογλου, 2015).

Another way to maximize learning is for the learner “to notice salient features of the language” (Tomlison & Masahura, 2009). If learners pay attention to language features on their own, they acquire them better and there is greater likelihood to notice similar features in a future input. Games facilitate this process, as learners are not presented with the linguistic features directly, but they need to work on their own and process the input.

Finally, Tomlison and Masahura (2009) indicate that creating opportunities for communicative outcomes is vital for learners’ acquisition. Learners who have the ability to engage in conversations, receive feedback on their outcomes and, thus, they are making generalizations on the target language. Games provide learners with chances to participate in purposeful conversations and receive meaningful input.
Other studies have been concentrated on the effectiveness of games in language learning. For instance, Macedonia (2005) found that games possess a vital role in the proceduralisation of the target language rules. To begin with, there are two categories of humans’ memory: the declarative and the procedural. The declarative memory concerns the conscious learning and, thus, it is connected with the learning of rules and vocabulary when learning a foreign language. On the other hand, procedural knowledge is the actual production of speaking. In order to transform declarative knowledge into procedural and be able to talk without thinking of the rules, language learners need to go through practice (Macedonia, 2005). Macedonia (2005) claims that games are necessary for language learners as they help them practise language forms, by noticing structures, establishing form-meaning relationships, so as to be able to produce output automatically, without thinking. So, the proceduralisation of language is achieved through the repetition of an assignment which is necessary in order to achieve the objectives of the game (Macedonia, 2005). Also, by taking part in games, learners are not totally aware of the learning process, as this repetitive practice is not boring and learners convert the rules they have learnt into spoken language.

Sorensen and Meyer (2007) discuss the concept of “serious games” in language education. Serious games are “defined as digital games and equipment with an agenda of educational design and beyond entertainment” (Sorensen & Meyer, 2007). Learning can be separated to formal and informal according to the way it takes place. Formal learning is mostly related to educational centers and the goal of the activities is to learn. On the other hand, informal learning usually takes place out of the classroom and as learners need to acquire knowledge in order to accomplish an activity. So, Sorensen and Meyer (2007) conclude that “serious games” are a combination of formal and informal contexts as they are used to stimulate motivation and authentic communicative practices and, at the same time, they are linked to leisure time activities.
3.2 Digital Games in Language Teaching

It is commonly agreed that the insertion of technology in everyday life has affected people’s way of learning. The current students’ generation significantly differs from the previous generations in respect of the use of technology, so the current educational system may need changes in order to meet the new needs. Today, young students, usually referred to as “Digital Natives”, are surrounded by technology since very early in life and they spend a great amount of the day in front a computer, tablet or mobile screen. As Prensky (2001) explains “Today’s average college grads have spent less than 5,000 hours of their lives reading, but over 10,000 hours playing video games”. What is more, it is quite reasonable that the new experiences that learners face have affected the way they process information and, therefore, the way they acquire knowledge (Prensky, 2001). So, the insertion of digital games in the learning environment has positive effects on students’ learning.

3.2.1 Defining Digital Games in Education

Digital games were considered to possess educational importance for learning many years ago. The evolution of educational video games has been through three phases. The first phase was based on edutainment and it had as an objective to make students practise certain skills many times (Gros, 2007). However, these games were considered quite simplistic and, thus, we have the second phase which was based on a cognitive approach and concentrates on the previous knowledge and experiences of the players (Gros, 2007). Finally, the third generation of educational games focuses on the existence of a social context, where the learners are requested to ask the right questions and go to the right places (Gros, 2007).
To begin with, an accurate definition of the term “digital games” is difficult to be reached, as there are many perspectives on what consists an actual game. The word “digital” refers to any game that runs with the use of an electronic device, whether it is a computer, or a tablet or a mobile phone. In order to define “games”, Witton (2010) identifies a series of characteristics that exist in most games. These characteristics include 1) competition, as the goal is to overcome an opponent, 2) challenge, 3) exploration, as there is a context-sensitive environment to be explored, 4) fantasy, as there are some characters or narrative, 5) goals, 6) interaction, as an action generates feedback, 7) outcomes, for instance scoring, 8) people, 9) rules and 10) safety, as it is not affecting the real-world (Witton, 2010). A similar definition was attempted by Salen and Zimmerman (2004), who defined the digital games as “a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome.”

The difficulty to define digital games derives from their variety, as there are many different genres. Gros (2007) identifies seven different categories of electronic games. These are action games, adventure games, fighting games, role-playing, simulations, sports games and strategy games (Gros, 2007). However, this taxonomy is not very clear as some games may be a combination of these genres. Gros (2007), searching the pedagogical value of video games, concludes to that the engagement of students in such practices makes them develop strategies important for learning, such as cooperation among students, problem solving, deductive reasoning and task-based learning.

A particular category of digital games used in education that is going to be the focus of this study is digital board games. Wu, et al. (2014) found that the structure and organization of board games are more feasible for classroom instruction, as their simpler structure permits them to be used as a teaching supplement due to their lack of demanded time and complexity. Digital board games encompass the properties of board games in a
digital environment. Board games usually contain a game board, illustration cards, a text description and some simple game properties (Wu, et al., 2014). Digital board games are usually designed within a social context and they provide opportunities for a face-to-face gaming environment that resembles classroom group activities (Wu, et al., 2014).

Technology has allowed the combination of the advantages of the educational board games with the affordances of a digital computer environment which is closer to young learners’ experiences. Computer devices provide users with situational plots and authentic language through the simulative effects of technology (Wu, et al., 2014). Besides, learners come across with animated scenarios and human-like feedback, which increases the extend of language immersion (Wu, et al., 2014). The game actions reinforce collaboration among learners and increase learners’ communicative skills as they put effort in fluency, trying to transfer a message and being exposed to authentic input.

3.2.2 Advantages of Digital Games in Language Learning

The pedagogical value of video games has, also, been identified in language learning, since there are many studies that examine the ways pupils learn through these games, as well as the effects they have on students’ language acquisition. The so-called “digital game-based language learning” (DGBLL) is a quite broad term and a distinction needs to be given between games specifically designed for L2 teaching, known as synthetic immersive environments, and those which are not specifically designed for language teaching, called commercial off-the-shelf games (Cornillie, Thorne & Desmet, 2012). Despite the lack of designed language learning elements in the second category, users are reported to acquire language characteristics through their playing.
The inclusion of the digital games in language learning is claimed to create a, quite different from traditional learning, environment for students. Games emphasize on interactivity and individual action (Sorensen & Meyer, 2007). In informal learning, which is facilitated by the use of digital gaming, language is conceived as a means for communication, information gathering and gaming, whereas in schools the understanding and use of languages is often understood to be a goal of the activities” (Sorensen & Meyer, 2007). Digital games do not function as a means for memorizing knowledge or searching for a correct answer. On the contrary, they are conceived as a meaningful context for creating educational material for language teaching. Another affordance of digital games, which does not exist in conventional teaching, is the “deep expertise”. This means that learners are provided with the opportunity to see how knowledge is applied to a real context, while traditional teaching just controls learners’ competence rather than performance in the target language (Sorensen & Meyer, 2007).

The benefits of the DGBLL are very significant for language teaching and this is why the use of digital games has been so widely spread in second language acquisition environments. However, the complexity of digital games and the wide variety of elements included in this term indicate that there may be different benefits according to the approach and scope of each game which is connected to the type of the games and its use (Godwin-Jones, 2014). Generally, some of these benefits in language learning are the following.

To begin with, many students have low interest in formal education, but they are quite engaged in playing digital games. So, DGBLL can let them learn a foreign language through a popular form of gaming while at the same time they enjoy themselves (Gowin-Jones, 2014). What is more, “performance may be increased by game-based activity, as learners may "voluntarily read more than they would if assigned a linear text, and their comprehension can be expected to increase with each repetition” (Sorensen & Meyer, 2007)
Another advantage of DGBLL is that “users of both games and simulations are involved in purposeful task-focused interaction and are exposed to a great deal of TL input” (Peterson, 2010). Learners are made to produce their own modified output, and through a process called negotiation of meaning and the feedback they receive by their interlocutors they are able to make the input comprehensible and acquire language items. Particularly, in the case of network-based games and simulation, learners may have the opportunity to communicate with peers, using and negotiating the target language and in this way they develop their communicative competence (Peterson, 2010). As supported by Gowin-Jones (2010), through a game, learners “use the target language in socially appropriate ways; in the game context pragmatic appropriateness is more important than grammatical accuracy.”

What is more, the engagement into games provides students with a variety of situations for communication, for example “requests of help, giving explanations, coordinating planned activities, reporting an action, or asking for alternative solutions” (Gowin-Jones, 2010). Learners receive a constant feedback either by the game evolution or by the other players, so they may need to repeat or revise some statements (Gowin-Jones, 2010).

Additionally, it is very important the fact that DGBLL is a learner-centered process. Taking part in games is said to increase learners’ motivation, as games combine fun and creativity. As supported in Peterson (2010), “the degree of control exercised by learners, coupled with the anonymity afforded, may act to reduce the influence of affective variables such as anxiety and low self-confidence that hinder learning in teacher fronted classrooms”. The use of games, also, provides autonomy to learners, who usually maintain the language longer and they obtain an interest for learning languages (Gowin-Jones, 2010). Moreover, the cooperation among the learners is a vital benefit of digital games. Learners create an “affinity
space” in which the shared interest breaks down interpersonal and inter-cultural barriers, creating an open and tolerant collaborative environment (Gowin-Jones, 2010).

Some other advantages of the use of digital gaming for language learning can be surveyed from a sociocultural view. According to this view, computer games engage students into collaborative dialogue involving the target language. Learners, through the process of mediation, develop higher mental activities by socially interacting with others (Peterson, 2010). Thus, learners by participating in computer-network games are provided with opportunities to develop their target language as long as they take part in collaborative dialogue with their peers. What is more, Peterson (2010) indicates that games provide learners with opportunities for socialization in the target language through collaborative goal-based relationships, which differ from the institutionalized learning contexts, which are quite restricted.

Moving on, Chik (2014) surveyed the sense of autonomy and community in a learning environment dominated by digital games. Learners’ autonomy in the sense of controlling their own learning and determining how to use what they have learnt in a real-life context, is quite prevalent in game-based learning. As quoted in Chik (2010), Ushioda claims that the factors that lead to learners’ autonomy are motivation and the existence of a social environment that supports learners. The concept of community, on the other hand, presupposes the existence of a group of learners who have as an objective to fulfill a specific goal. Particularly, Cornille, et al (2012) indicate that in the case of digital gaming the concepts of autonomy and community are applied since gamers “frequently make independent decisions on gaming choices; and second, using game-external websites and other communal resources is integral to the overall gaming experiences”. Thus, Chik (2010) supports that as long as digital-game activity is community-based, the autonomous learning involved will, also, be community-based.
3.3 Speaking Skills and Gaming

The communicative approach to language teaching has been closely connected to the use of games in the learning process. Through their engagement in games, like role plays or other communicative classroom games, learners usually have the opportunity to use the target language in order to achieve a goal.

Being able to speak a language is a crucial element of language acquisition. Unfortunately, in a traditional teaching environment, there is only a little exposure of learners to speaking skills practice. Foreign language learners and, especially, young learners face many difficulties in their attempt to become fluent speakers of a foreign language. Hosni (2014) investigated some of the difficulties, concerning speaking, encountered by learners. First of all, learners may face linguistic difficulties, such as lack of linguistic resources, or they may use their mother tongue instead (Hosni, 2014). Moreover, the learners usually have a sense of inhibition when they speak a target language as they are afraid of their classmates’ reactions.

So, it is widely admitted that the emotions experienced by learners during the lessons affect their communication in the target language. Koosha, Ketabi and Kassaian (2011) found that students’ low self-esteem has immediate consequences on their speaking abilities and, especially, on their fluency. Foreign language anxiety is, also, an inhibitory factor related to foreign language speaking. Liu and Jackson (2008) investigated this anxiety and particularly its three dimensions: fear of negative evaluation, communication apprehension and test anxiety. The survey revealed a strong relationship between foreign language anxiety and willingness to communicate, as many of the participants wanted to participate in interpersonal conversations, but they hesitated due to anxiety and low perceived proficiency.
in English and they were not willing to take risk using English in class (Liu & Jackson, 2008).

Since one of the main problems that prevents learners from speaking in the classroom is their hesitation and their anxiety, it is important that teachers should find ways to make them feel more relaxed during the lessons. One way to achieve this would be to incorporate games in the learning process, since playing is known for lowering learners’ affective barriers.

There are several studies indicating that digital game-based learning promotes learners communication and, therefore, their speaking skills. Computer games are known to promote interaction as they engage learners in tasks, where they need to negotiate meanings, which is necessary for language acquisition. Also, the tasks make players develop communicative competence as they communicate with the other players. What is more, since learners are not consciously learning but they have a sense of playing, they do not feel stressed and they are more willing to communicate as they do not feel afraid of being judged.

Wu et al (2014) conducted a survey to measure communicative competence in a digital board game environment. It was found that such an environment was helpful for the learners “in encouraging them speaking by playing and learning with sufficient context-relevant immersions and efficient game instruction management” (Wu, et al, 2014). They attributed these results to classroom group learning and the digitalization and visualization of the board games. The vivid presentation of the tasks was found to promote learners’ joy and comprehension.

Another study by Reinders and Wattana (2015) revealed that learners’ participation in digital gaming increased their willingness to communicate. The participants claimed that they felt relaxed and confident during the game and they used the English language in a safe
context without being worried of making mistakes (Reinders & Wattana, 2015). What is more, participation in digital gameplay raised their sense of risk-taking and let them be exposed to their interlocutors. All in all, gaming lowered the participants’ affective barriers, boosted their self-efficacy and identity and, therefore, promoted their communicative skills (Reinders & Wattana, 2015).

3.4 Learners’ Emotions and Digital Gaming

Several studies have been concentrated on the importance of the learners’ emotional situation during learning. One of the most central affordances of using digital games in language education discussed above is motivation. Godwin-Jones (2014) claims that “games or simulations that target particular linguistic or cultural topics can be successful, particularly if they are used in the context in which learners are highly motivated by external factors”. The effectiveness of digital games in education is the outcome of the blending of the content of learning with the motivation of games (Prensky, 2003).

Many studies claim that the emotions experienced by the students while they are learning can determine their understanding of the material and their maintenance of the knowledge, as well. The human organism is programmed to evaluate the environment they are in and scan it for any dangers and this is the case with a foreign language learning environment (Macedonia, 2005). Thus, a learner may evaluate a learning environment in a positive way, as entertaining and fun and as if it facilitates the learning process, or it can be experienced in a negative way as troublesome, frustrating or boring. What is interesting, though, is that this evaluation of the learning environment “triggers biochemical processes in our brains” (Macedonia, 2005). Particularly, if the evaluation of the environment is positive, it stimulates our dopamine system and reinforces positive feelings. Also, it is responsible for
“the growth of synapses and information transmission in the existing and resulting neural network” (Macedonia, 2005). In this way learning is facilitated and promoted. In the other case, where the evaluation of the environment is negative, negative emotions “restrain information flow by releasing stress hormones” and, hence, learning is hindered.

It is quite clear that learners’ attitudes towards the learning environment, which includes the materials and activities used, the teachers, the classmates or even the classroom determine their emotions and as a consequence their willingness to learn. Since there is an inherent connection between games and pleasure, it is quite important to maintain the task-based character of the games, so as for learners to actively participate using the language and not demonstrating them (Cornillie, et al, 2012). In other words, educators need to sustain the importance of playing when they engage learners in DGBLL and the main focus of the game should be the outcome rather than the language used.

Since there are many studies which identify motivation as a valuable component in young learners’ learning of a new language, it is worth expanding on the concept of motivation. To begin with, as cited in Wu (2003) intrinsic motivation (IM) can be categorized in three types: IM-knowledge, which concerns learners’ willingness to expand their knowledge, IM-accomplishment, which in connected to the attempt to fulfill a goal and IM-stimulation, which is related to the sensations, such as appreciation, fun and excitement. Also, Wu (2003) found that there is a relationship between intrinsic motivation and the classroom environment. Particularly, it was found that practices such as engaging learners in moderately challenging tasks, providing instructional support and giving them the opportunity to choose the task helped increase learners’ competence and autonomy, which contribute to the increase of their intrinsic motivation. Thus, the inclusion of games in teaching could provide similar outcomes on learners’ motivation.
Prensky (2001) attempted to define the reasons why digital games are so engaging for people in general and search for ways to incorporate this interest in education. Prensky (2001) made a connection between digital games and fun, meaning the excitement and pleasure learners feel when playing. So, in a pleasant environment, learners experience relaxation, which help them understand things more easily, and motivation, which makes them willingly attempt for their learning. Also, Prensky (2001) mentioned the existence of playing in digital games, which has a significant role in learning, as many experts closely relate playing with involvement in the educational process. To be more specific, Prensky (2001) quested other characteristics of the digital games that engage users. Particularly, he identified rules as giving a certain structure to the game, goals and objectives as providing users with motivation to win, outcomes and feedback as boosting learners emotions and ego-gratification, conflict, competition, challenge and opposition as involving learners in an attempt to solve a problem and rising their adrenaline, interaction as they usually engage users in social activities and representation which cultivates learners’ fantasy (Prensky, 2001).

What is more, there are several studies available that prove the relationship between the use of games in language teaching and the increase of learners’ motivation. For instance, Chou (2014), conducting a research on young learners in Taiwan found that using language-based games for teaching English seemed to help students memorize English vocabulary more efficiently. What is more, learners found these games as fun and motivating and they promoted their more active participation during the lesson. Quite important is, also, the fact that when playing games, learners feel more comfortable to take risks and make mistakes without having the feelings of embarrassment and frustration.

Another study was conducted by Anyaegbu, et al (2012) in China, where they exposed learners to a particular digital game and they attempted to measure the factors that
increased motivation. It was found that the majority of learners found the game as motivating and would like to use such games in the learning process. Additionally, there were found six ways in which this game motivated learners. Learners expressed a feeling of fun and satisfaction while playing the game and some of them stated that they felt “calm, fun and willing to read more” or that the games were “free of stress and interesting” (Anyaegbu, et al, 2012). Autonomy was, also, reported as a factor that reinforces motivation as learners preferred learning on their own without being stressed by the teacher (Anyaegbu, et al, 2012). The students’ collaboration and cooperation was, also, reported to be reinforced since learners could communicate with their classmates and teachers without hesitating (Anyaegbu, et al, 2012). Finally, other factors that motivated learners during the game, were reward and encouragement, problem-solving ability, which was found to be quite engaging and the good learning environment (Anyaegbu, et al, 2012).

Generally, digital games are known to lower learners’ affective filter and, hence, learners are more likely to concentrate on language learning, receive comprehensible input and acquire the target language. Besides, low affective filter “promotes more opportunities for learners to become willing to communicate and thus use more L2” (Reinders & Wattana, 2015). Willingness to communicate has been considered as a determinative factor which benefits learners as they practise more the target language, they take risks in communicating, they become more autonomous and, generally, they achieve greater proficiency in the L2 (Reinders & Wattana, 2015). In a study, conducted by Reinders and Wattana (2015) in Thailand, learners were anticipated to participate in a computer game in order to measure the affect it had on their willingness to communicate. Participants of the study were perceived to be more willing to communicate in English in a game-based environment and the reasons for this, as reported by them, were the lower communication anxiety, their increased perceived
communicative competence and their increased motivation to communicate in English (Reinders & Wattana, 2015).

To sum up, there are many surveys that prove a positive effect of digital games used for language learning and the learners’ emotional conditions. Also, it has been proven, long ago, even by Krashen that learners’ affective filter determines their quality of learning a foreign language. The more relaxed, confident and motivated they feel, emotions that are reinforced by playing digital games, the better results they get in language learning.
CHAPTER 4: METHODOLOGY

Having already discussed the theoretical background of the impact of Computer Assisted Language Learning and, particularly, the importance of a multimodal environment and digital gaming in learning English as a foreign language, this second part of this dissertation aims at investigating the actual impact of a series of digital games on students’ language performance. The study specifically looked at the influence of a number of digital board games, designed with a target to improve learners’ speaking skills, on learners’ speaking and communication skills, their vocabulary expansion and their social and cooperative skills.

4.1 Purpose and Research Questions

The particular research was designed to investigate and answer the following questions concerning the use of digital games in a language classroom of young learners:

1) Do digital board games influence young learners’ speaking and communication skills?

2) Do digital board games influence young learners’ vocabulary and grammar?

3) Do digital board games influence young learners’ social and cooperative skills?

4) Is there any relationship between learners’ perception of the learning environment and their performance in speaking?

Furthermore, the research aimed at gathering information about young learners’ preferences on digital materials used in classroom and their attitudes, feelings and opinions towards the use of digital games in order to practise their speaking and communication skills.
4.2 Participants and setting

This study was conducted in the context of a private school, teaching English as a foreign language, in Evosmos, Thessaloniki. The study involved two groups of students of the same class (B senior) and the same proficiency level. The first group of students consisted of 8 students, 2 males and six females, while the other consisted of 9 students, 6 males and 3 females. The age of the students varied from 10 to 12 years old and they all attended the fourth academic year in the private school. The level of English proficiency of both groups was A2-B1 according to the Common European Framework of Reference for languages (2001). Practically, the students at this level are able to communicate and exchange information on familiar topics and they can understand the main points of the input (CEFR, 2001). Also, they can produce simple text on familiar topics or topics of interest (CERF, 2001). Both groups were taught the same coursebook called “Here we Go” by Burlington Publications. Both groups were taught by the author of the study and during the course emphasis was put on enhancing all four language skills.

4.3 Instruments and Procedure

The tests used for the purposes of the research and the questionnaire as well were not anonymous in order to check the advancement and progress of each separate student. The survey was conducted as part of the curriculum and the games were performed as part of the lesson, serving the aims and targets of the taught lessons. However, participants were taught that their results and answers were going to be used for research purposes. The instruments used in the survey are listed below. An original preview of the items is presented in Appendix A and Appendix B.
Personal Interviews:

Before the beginning of the survey each student went through a short personal interview by the author of the dissertation. Each student was asked four simple questions relevant to the topic of each game. For instance, learners were asked questions like “How did ancient Greeks used to travel?”, “What does a pet need?”, “What characteristics should a lawyer have?” and “What animals would you help if you could and why?”. The target was to test the speaking ability of the students in terms of five assessment factors: 1) lexical resources, 2) fluency and coherence, 3) pronunciation, 4) grammar accuracy and 5) comprehension. The students were rated in all four language aspects with a grade 1-5. This interview was repeated at the end of the whole process in order to identify the potential students’ progress in their speaking ability.

Pre-Test:

Before the beginning of each game, students went through a pre-test, distributed to them in print. The test was designed based on the objectives, anticipated to be fulfilled during each game. The objective was to examine the current knowledge of students on the material to be taught. Each pre-test included an amount of ten words to be translated from English to Greek (all these words were going to be presented throughout the game) and a grammar exercise based on the particular grammar phenomenon that was going to be practiced during the game. The results of each pre-test were compared to those of the corresponding post-tests, in order to identify any improvement in students’ performance in vocabulary and grammar. Each pre-test was distributed to the students in the previous lesson of that in which the game was presented, while each post-test was distributed to students during a following lesson, the next week, in order to avoid the possibility of students storing the information in their short-term memory.
Post-Test:

After the fulfillment of each game, students went through a post-test, designed to test students’ performance, after they had completed each game. The post-test was distributed to learners the following week in order to check the students’ retention of the obtained words and grammar structures. Each post-test aimed at measuring the influence of the games on students’ vocabulary and grammar achievement. All post-tests were designed based on the vocabulary that students were taught during the game and on the grammar phenomenon that was practised. The form of the post-test was quite similar to this of the pre-test as it was consisted by a vocabulary exercise, asking students to translate ten words from English to Greek (these words were same to the words tested in the pre-test but they were presented in random order). Also, the post-test included a grammar exercise, quite similar to the grammar exercised used in the pre-test and aiming at the same targeted grammar phenomenon practised during each game.

Questionnaire:

The study used a survey questionnaire as the quantitative source of data gathering. The questionnaire was designed by the author of the survey and it aimed at gathering information about the students’ attitudes on the use of electronic digital games in the classroom, their evaluation of the impact of the games on their performance and their feelings about the general climate formed in the classroom during the performance of the digital games.

The questions included in the questionnaire were divided in two main categories, students’ general beliefs about speaking English and students’ beliefs concerning the impact of digital games in their speaking ability. Particularly, the first three questions were designed to gather personal information about the students. Also, students were asked to complete their
names in the questionnaire in order to make it possible to establish a relation between students’ performance in the pre-tests and post-tests and their beliefs and attitudes. Questions number 4 and 5 included general beliefs about the English language. Moving forward, questions 6 to 8 concern learners’ feelings of comfort when they use English in and out of the classroom and the importance of who their interlocutors are (teacher or classmate). Question 9 examined the impact of the digital games on different aspects of their language as perceived by the students themselves. Finally, questions 10 to 14 delved into students’ beliefs about the climate created in the classroom during the games, their social and their cooperation skills.

In order to collect the data for the study, the students who participated were asked to complete a questionnaire in paper-based form. All the questions were written in students’ native language, Greek, in order to make sure that they fully understand the questions and avoid misinterpretations. The questionnaire was distributed to learners during the lesson so as they could ask for clarifications. A Likert scale was used for the students to choose their answer, ranging from “extremely” to “not at all”. However, since the learners were quite young it was preferable to use emoticons instead of numbers so as to make it more learner-friendly.

4. 4 Design of digital games

All students were engaged in a series of four digital games designed for the purposes of this survey. The digital games were designed on Scratch by the author of the study. Scratch is a block-based visual programming language which is user-friendly. Interactive stories, games and animations can be programmed on Scratch. Users have, also,
the ability to share their creations in the Scratch community. Scratch is a programme created by the MIT media lab and it is provided to users free of charge.

The design of the digital games was based on communicative language teaching and task-based language teaching and the target was to engage learners in performing language through completing a task. All four games were designed based on the textbook used by students in the particular language school. The textbook was “Here we Go” by Burlington publications and all games were based on different topics. The general objective of all games was to concentrate on a topic of the book and expand the content provided by the book. Also, the vocabulary presented in each game was based on a word group found in the textbook. The games aimed at drawing from students’ knowledge and help them expand their vocabulary, practise grammar structures and be engaged in speaking activity. What is more, another target of the games was to make students relax and be interested in the lesson through engaging them in a multimodal environment. Finally, there was an attempt to create a stress-free environment where students would take part in engaging conversations in order to help their team win the game. Students should understand the communicational use of language as their target in each game was to make meaning and cooperate with their classmates using the English language as a medium.

Below, follows a presentation of the objectives and implementation of every digital game.

**1st game-Transportation Board Game**

**Objectives:**

- learn and practise vocabulary relative to transportation

- practise the use of past simple
-practise speaking skills

-practise cooperation skills

Skills: Speaking

Procedure: Students are divided into two groups. Each group is divided into two teams. The same procedure is followed by every team. Each group of four students has a screen in front of them, so two board games are going to take place at the same time.

On the screen there is a board with boxes (1-30) and an electronic dice. The two teams take turns and by clicking on the dice, their avatar moves to the corresponding box. When they step on any box, a question and three possible answers appear on their screen. All the questions are relevant to the history of transportation and students do not probably know the answers. So, they need to discuss with their teammates, reject the answers that seem unlikely to be correct and decide which answer is the best one.

For every correct answer, the team gets 10 points and for every wrong they lose 5 points. The game ends when one of the teams goes to the last question and the winner is the team with the most points.
2nd game- Animals Taboo

Objectives:

- learn and practise vocabulary about animals
- practise relative clauses
- practise speaking skills
- practise cooperative skills

Skills: speaking

Procedure: Students are divided in two groups. Each group has a computer in front of them. A member of each group is asked to describe the word presented on the screen. Only this person can see the word. S/he tries to describe the word using the auxiliary words given. Also, s/he has to use the correct relative clause to describe the word. S/he has got one minute and tries to describe as many words as possible. Once the one minute is over, another student from the team takes his/her place. When every member of the team has spoken, the same procedure is followed by the other team. In the end, we compare the scores of each group and the team with the highest score is the winner.
For instance, a student is presented with the word “feed” and the auxiliary words “dog, give” tries to produce an utterance like “when you give food to your dog”. Another student may be presented with the word “owner” and the auxiliary words “pet, house” may produce the utterance “someone who has got a pet”.

Figure 1.2 Animals Taboo Game

*3rd game- Guessing the Occupation*

*Objectives:*

- learn and practise vocabulary relative to occupations and traits

- exercise future simple

- practise speaking skills

- practise cooperation skills
Skills: Speaking

Procedure: Students are divided into two teams. Students are presented with short descriptions of some children’s interests and hobbies in digital form. They are, also, looking at a list of occupations in one part of the screen. Students have to discuss with their teammates and take into consideration the digital descriptions. Then, they should come to a conclusion on the career path that every child is going to follow.

Once they decide on the suitable profession they need to type the word. Every correct answer is graded with a range of points according to the difficulty. In the end of the game, the team with the most points wins.

Figure 1.3 Guessing the Occupation
4th game- Endangered Animals Brainbox

Objectives:

- learn and practise vocabulary about wild animals / animal characteristics
- practise wh-questions
- practise speaking skills
- practise cooperation skills

Skills: Speaking

Procedure: Students are divided in three groups. Each group is presented with two slides that contain information about different endangered animals. Each of the two slides is presented for a certain amount of time. Students have to memorize as much information as possible. Then, they are asked two questions relevant to the slides. They need to discuss and recall the correct answer. The group with the most correct answers wins the game.
CHAPTER 5: RESULTS

After the implementation of the study all the concentrated data were processed and statistically analyzed through the use of SPSS. The results of the pre and post tests were compared in order to measure the effectiveness of the use of digital board games on learners’ vocabulary and structure. The rating of the personal interviews conducted before the series of the games was compared with that of the interviews conducted after the end of the whole process in order to measure the effect of the games on learners’ communicative skills. Finally, the answers of the questionnaire were used in order to realize students’ views and perceptions and relate them with their actual improvement.

5.1 Pre-Test and Post-Test results

In order to test the effectiveness of the digital board games on learner’s vocabulary and structure skills, four pre-tests and four post-tests were filled in by the participants, one before and one after each of the games.

For the first game, the mean pre-test score for the vocabulary acquisition was 4.41, while the mean post-test score was 7.705. These data were subjected to the T-test for paired samples, with the results showing a statistically significant gain (t=17.59, p= 0). This means that there is a relationship between the games and the vocabulary performance as p<0.05. Particularly, there is strong evidence that the use of the digital board games increased learners’ performance on vocabulary as their scores were increased by an average of approximately 3 more correct answers (mean paired difference=3.29).
The same process was followed to check the impact of the digital games on the learners’ structure skills, through a grammar exercise. Again for the first game, the mean of the pre-test results was 5.52, while the mean of the post-test was 6.7. The T-test for paired samples indicated that there was a statistically significant gain ($t=4.51$, $p=0$). So, there is a relationship between the use of digital board games and the learners’ performance in grammar. However, it is quite clear that the improvement in students’ score in grammar was slighter than their corresponding improvement in vocabulary since the mean paired difference was about 1.

The same test was followed for the comparison of the results of the pre and post-tests of all four games. Particularly, the mean of the vocabulary pre-test of the second game was 4.29, while the corresponded mean of the post-test was 7.94. The T-test showed a significant relationship ($t=14.22$, $p=0$). Similarly, significant relationship was found in the students’ grammar performance in the second game’s test, with the mean for the pre-test to be 6 and for the post-test 7.17. The $t$ was 4.09 and $p=0.001$, so the relationship was strong. Again it was quite evident that learners’ performance in vocabulary was improved more (by mean 3.64) than their performance in grammar (by mean 1.17).

For the third game, the mean of the pre-test in vocabulary was 4.52, while for the post-test was 8.52. The $t$ value for the vocabulary was found 16.40 and $p=0$, showing a very important relationship between the digital games and the learners’ improvement in vocabulary. Correspondingly, the mean of the pre-test in grammar was 8.17 and that of the post-test was 9. The $t$ value was 2.74 and the $p=0.014$, revealing that the relationship between the games and the improvement in grammar was quite weaker. Learners’ improvement was still greater in vocabulary (by 4) than in grammar (by 0.82).
Finally, the mean of the students’ score in the vocabulary pre-test in the fourth game was 5.58, while in the post-test it was 8.64. The t value was 12.25 and the p was 0 so, there is a strong relationship. The mean of the pre-test in the grammar activity was 5.29, while the mean of the post-test was 6.23. The T value was 2.55 and the p was 0.02, so the improvement of learners in grammar through the games was not considered so important.

Table 1.1: Pre-test and Post-test results on vocabulary acquisition and grammar

<table>
<thead>
<tr>
<th>Pair</th>
<th>PreTest_Vocabulary1 - PreTest_Vocabulary1</th>
<th>PreTest_Grammar1 - PreTest_Grammar1</th>
<th>PreTest_Vocabulary2 - PreTest_Vocabulary2</th>
<th>PreTest_Grammar2 - PreTest_Grammar2</th>
<th>PreTest_Vocabulary3 - PreTest_Vocabulary3</th>
<th>PreTest_Grammar3 - PreTest_Grammar3</th>
<th>PreTest_Vocabulary4 - PreTest_Vocabulary4</th>
<th>PreTest_Grammar4 - PreTest_Grammar4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>3.29412</td>
<td>1.71714</td>
<td>3.64766</td>
<td>1.56748</td>
<td>4.00000</td>
<td>1.23669</td>
<td>3.05882</td>
<td>1.51948</td>
</tr>
<tr>
<td>St Deviation</td>
<td>.77174</td>
<td>.86059</td>
<td>.65719</td>
<td>.98744</td>
<td>.60600</td>
<td>.69994</td>
<td>.62899</td>
<td>.51948</td>
</tr>
<tr>
<td>Std Error Mean</td>
<td>.18718</td>
<td>.32465</td>
<td>.25641</td>
<td>.36715</td>
<td>.32454</td>
<td>.19768</td>
<td>.24957</td>
<td>.15993</td>
</tr>
<tr>
<td>95% Confidence Interval of the Difference</td>
<td>2.99732</td>
<td>1.62959</td>
<td>3.09350</td>
<td>1.23721</td>
<td>4.51885</td>
<td>1.49380</td>
<td>2.52976</td>
<td>1.72242</td>
</tr>
<tr>
<td>Lower</td>
<td>3.69911</td>
<td>1.73899</td>
<td>4.19611</td>
<td>1.78781</td>
<td>4.51885</td>
<td>1.49380</td>
<td>3.58788</td>
<td>2.65441</td>
</tr>
<tr>
<td>t</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>df</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.001</td>
<td>.000</td>
<td>.014</td>
<td>.000</td>
<td>.021</td>
</tr>
</tbody>
</table>

By analyzing the results and comparing learners’ scores in the pre-test with those of the post-test, we could find that in all four cases, learners achieved higher scores after the implementation of the games. However, it is worth referring that the improvement noticed in students’ performance in vocabulary was quite larger than their improvement in grammar. This seems quite reasonable, as learners probably had never come across with some of the words before the games, so the majority was unknown for them and this is why the deviation between the scores in pre and post-tests was high. As far as grammar is concerned learners were already familiar with the grammar rules as they have been taught them in the previous
years, so their scores before and after the games were similar, with a slight improvement as they practised the rules during the games, using the correct structures.

5.2 Results related to learners’ speaking and communication skills

The results related to learners’ improvement in speaking and communication skills were measured in two ways. First, through the use of the questionnaire, we gathered information related to learners’ perception and their own evaluation of the effect of the digital board games on five different aspects of their speaking skills. Particularly, the questionnaire examined how much learners think that the games helped them to improve their vocabulary, their pronunciation, their fluency, their capacity to create new sentences and their ability to express themselves and be understood by their classmates. Second, through the personal interviews, there was an evaluation of the students’ utterances by the conductor of the survey and the students’ output was evaluated in a 1-5 climax, on lexical resources, pronunciation, fluency, grammar accuracy and comprehension.

To begin with, after the implementation of all four games, learners were asked for their view on how much the digital games had helped them to use vocabulary items appropriately while speaking. The majority of the learners (58.8%) answered that the digital games had helped them “much” in the use of vocabulary while speaking, while a large amount (35.3%) answered “so and so” to the same question. Moving on, most of the students did not identify much or any help in their pronunciation. Particularly, 58.8% answered “so and so” to the question if the digital board games had helped them in improving their pronunciation while speaking, while 22.3% answered that they were helped just “a little”. Additionally, the majority of participants (58.8%) reported that they were helped “much” in their fluency, while 29.4% answered “so and so” to the same question. What is more, 52.9% of the participants answered that the games helped them in creating new sentences, but the
others were separated (23.5%) to the answers “so and so” and “very much”. Finally, similar results were found in the last question, as 47.1% of the participants supported that the digital board games had helped them “much” in being understood by their classmates, but the remaining percentage was equally distributed in the answers “a little”, “so and so”, “very much”.

So, as it is indicated by the table 1.2, the majority of the learners reported that they were “much” helped by the digital board games mostly in the use of vocabulary and in fluency, while another quite big amount of participants reported that they were helped “much” in creating new structures and a bit less in being understood by their classmates. In contrast, most of the students supported that they were not much helped by the digital board games in their pronunciation.

Table 1.2: Questionnaire results on the effect of games on learners’ skills
How did the games help me in my fluency?

How did the games help me in creating new sentences?

How did the games help me in being understood by classmates?
As already has been mentioned, each learner went through a short interview before the beginning and after the end of the games. Of course, the grading of the learners’ skills was quite subjective as it was conducted by only one evaluator. The interviews, also, revealed an improvement in learners’ speaking and communication skills. Particularly, the largest improvement was found in learners’ grammar accuracy as the mean in the first interview was 2.70, while in the second one it was 4.05. Also, there was found a significant mean improvement at 1.35. What is more, a slighter improvement was found in learners’ use of lexical resources. The difference mean between the learners’ ability to use appropriate vocabulary before and after the games, on the particular topics examined in the games, was found 0.94. Moving on, a less significant improvement was found in comprehension and fluency with difference mean 0.76 and 0.64 correspondingly. In all these four domains of speaking skills the p value was found 0, revealing that there is an actual improvement, slighter or stronger. However, the p value in pronunciation was found 0.027, which means that the improvement tracked was not of a great significance. Therefore, we can infer that through the games, learners speaking and communication skills actually improved. Though, a significant improvement was noticed in learners’ grammar accuracy and their use of lexical resources. Table 1.3 presents the T-test for the interviews.
Table 1.3: T-test for Learners’ interviews before and after the project

<table>
<thead>
<tr>
<th>Paired Samples Test</th>
<th>Paired Differences</th>
<th>5% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Deviation</td>
<td>Std. Error Mean</td>
<td>Lower</td>
<td>Upper</td>
</tr>
<tr>
<td>Pair 1</td>
<td>Lexical Resources_PostTest - Lexical Resources_PreTest</td>
<td>.94118</td>
<td>.59885</td>
<td>.15975</td>
<td>.80253</td>
</tr>
<tr>
<td>Pair 2</td>
<td>Pronunciation_PostTest - Pronunciation_PreTest</td>
<td>.4769</td>
<td>.79982</td>
<td>.19399</td>
<td>.65826</td>
</tr>
<tr>
<td>Pair 3</td>
<td>Fluency_PostTest - Fluency_PreTest</td>
<td>.64706</td>
<td>.49259</td>
<td>.11947</td>
<td>.39379</td>
</tr>
<tr>
<td>Pair 4</td>
<td>Grammar Accuracy_PostTest - Grammar Accuracy_PreTest</td>
<td>1,35294</td>
<td>.70189</td>
<td>.17023</td>
<td>.9206</td>
</tr>
<tr>
<td>Pair 5</td>
<td>Comprehension_PostTest - Comprehension_PreTest</td>
<td>.76471</td>
<td>.56230</td>
<td>.13638</td>
<td>.47560</td>
</tr>
</tbody>
</table>

5.3 Results related to the learners’ perceptions of the games

The last section of the questionnaire (questions 10-14) concentrated on learners’ perceptions and comments on the digital games performed in the classroom. The first question was about a general learners’ belief and it sought to investigate if games should be used in the classroom to promote language learning. All the students agreed that we incorporate computer games in the learning process, as 70.6% answered that they totally agree and the other 29.4% that they agree. Also, similar was the students’ reaction to the question “Would you like to play such games again?”, since 64.7% answered “very much”, while the other 35.3% answered “much”.

The three final questions concentrated on students’ general reaction to the digital board games that took place into the classroom. The first question examined how much more pleasant was the classroom environment when playing the games in comparison with the traditional way of teaching. The majority of the answers (83.4%) was distributed to the answers “much” and “very much”, revealing that the learners experienced positive emotions during these lessons. The other two questions referred to the students’ collaboration with their
classmates. When they were asked to evaluate their cooperation with their classmates, the 70.6% supported that it was “much” good. Another significant percentage (23.5%), however, was more hesitant, answering “so and so” in this question. None of the students characterized negatively the cooperation with their classmates. Finally, the last question was related to the reaction of the other classmates to the learners’ mistakes. Again, the majority of the answers (70.6%) concentrated to the answers “much” (47.1%) and “very much”(23.5%) showing that their classmates reactions did not embarrass the learners. However, there was a percentage of students (29.4%) who did not agree with this view. Therefore, we could conclude that learners found motivation in the games, as they would like to repeat them. Also, they made them feel less stressed and more willing to interact with their classmates since they do not feel that they are judged. So, the cooperation and social skills of the learners improved through the games.

5.4 Relations among the findings

Having already discussed the results provided by the questionnaire, the pre and post-test and the interviews, it is worth drawing attention to some relations that could be noticed. In an attempt to associate the learners’ perception of the improvement of the classroom environment and their perception of their improvement in their ability to becoming understood by others, we correlated the two variables to find out if there is any association. A Pearson test was computed to assess the relationship between the perception of a pleasant environment and students’ improvement in their social and communication skills. There was found a possible correlation between the two variables, r=0.874, n=17, p=0. It is summarized by Table 1.4. Overall, there was a strong positive correlation between the learners’ perception of a positive climate and their confidence of becoming understood by their classmates.
Table 1.4: Relationship between the classroom environment and impact of the games

<table>
<thead>
<tr>
<th>How did the games helped me in being understood by classmates?</th>
<th>How much more pleasant was the class environment during the games?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pearson Correlation</strong></td>
<td><strong>Sig. (2-tailed)</strong></td>
</tr>
<tr>
<td>1</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>17</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

Another significant relationship that is worth mentioning, is the comparison between the students’ general perception of feeling comfortable when they use the English language with their perceptions of feeling embarrassed in the classroom because of their classmates’ reactions to their mistakes during the games. An independent samples t-test was conducted to compare learner’s feelings of embarrassment in general and in a digital game-based learning environment. There was a significant difference in the scores for feeling comfortable in general when they speak with their classmates (M=2.88, SD=0.85) and for feeling comfortable when they speak with their classmates during the games (M=3.94, SD=0.74), t=4.24, p=0.001. These results suggest that the inclusion of digital games in the classroom environment makes learners feel less embarrassed when they speak with their classmates.
Table 1.5: Relationship between learners’ perceptions of feeling embarrassed when speaking English and their classmates’ reactions to their errors

<table>
<thead>
<tr>
<th>Pair 1</th>
<th>My classmates' reaction to my errors didn't embarrass me. How comfortable do you feel when you speak English with your classmates?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td>1,05882</td>
<td>1,12989</td>
</tr>
<tr>
<td>Std. Err Mean</td>
<td>0.2057</td>
</tr>
<tr>
<td>0.52876</td>
<td>1.50788</td>
</tr>
<tr>
<td>4.243</td>
<td>16</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.001</td>
</tr>
</tbody>
</table>
CHAPTER 6: DISCUSSION

The particular study attempted to measure the impact of digital board-games on young learners’ 1) speaking and communication skills, 2) vocabulary acquisition and 3) their social and cooperative skills. Also, the study sought to investigate if there is any significant relationship between a pleasant learning environment as perceived by learners using digital board games in classroom and their performance in speaking. For the purposes of this study four digital board games were designed using a programming language, suitable for constructing games, animations and interactive stories, called Scratch. The games attempted to engage students in motivating speaking tasks and make them feel content and relaxed while speaking the English language. All the games followed the plan of the learners’ coursebook and they were designed to expand on learners’ acquired knowledge and help them practise their speaking skills.

A group of intermediate young learners, aged between 10 and 12 years old were the participants of this study. Several instruments were used to measure students’ performance in speaking, vocabulary and grammar structures, before and after the series of games. Also, a questionnaire was used to investigate learners’ perception of their experience with the games and the emotions created while participating. All participants were quite willing to participate during the project and they reported that they would like to include such games in their learning. Also, the learners felt more relaxed while speaking during the games than when they take part in face to face speaking tasks with their teachers or classmates. The target-oriented nature of the digital board-games made learners more amenable to communicating with their teammates in order to convey meanings and proceed in the game.

What is more, all learners showed interest for the games and they considered playing as a fun process. As Iacovides, et al (2011) suggested “games are rewarding due to a
combination of challenge, fantasy and curiosity”. Garris et al (2002), also, examined the characteristics of games that make them engaging for learners. In an attempt to explain how the games work for learning, they described a game cycle where “a) to elicit desirable behaviors from learners, (b) they first need to experience desirable emotional or cognitive reactions, (c) which result from interaction with and feedback generated from game play.” (Garris, et al, 2002). Therefore, in the present study learners by experiencing positive emotions while playing the games, they improved their performance in certain language skills.

The current study revealed that there was a significant improvement in learners’ vocabulary acquisition relevant to the vocabulary categories examined in the games. A less important improvement was found in learners’ forming of certain grammar structures. Additionally, as far as the learners’ speaking and communication skills are concerned, there was found a significant improvement in learners’ use of lexical resources and their grammar accuracy. However, learners perceived their improvement mostly in their vocabulary and fluency. Finally, participation in the digital board games helped students improve their cooperation and social skills, as reported by learners themselves.

The positive impact of games on learners’ performance is related to the nature of digital board games, which are challenging and creative and they create a pleasant environment in order for the learning process to occur. According to Gee (2003), games are “often challenging, but do-able, they are often also pleasantly frustrating, which is a very motivating state for human beings”. This is why the digital board games were perceived as engaging by the learners and they helped them improve their skills, since they felt rather relaxed while playing, but at the same time they admitted the challenge of fulfilling a goal.
Besides, when experiencing positive emotions, learners tend to learn better and acquire the language in which they are exposed to. As Deesry (2002) suggested when playing video games, students relax and are not worried about making mistakes as they just want to communicate efficiently and they are not trying to correct themselves. The positive impact of using games in the classroom was discussed by Prensky (2001), who suggested that the goals and objectives of the games and their problem-solving nature create a sense of challenge to students who want to try more in order to win the game. Additionally, interaction is easily achieved, since learners feel less stress when participating in speaking tasks during the game. Finally, the positive and relaxing climate that was perceived in the classroom during the games created positive emotions to learners, as it was claimed by Macedonia (2005).

6.1 Conclusion and Further Suggestions

The current research revealed that young learners’ engagement in digital board games during the lessons had a positive impact on their communication and speaking skills, their vocabulary enhancement and grammar accuracy and their cooperative and social skills. Also, the study suggested that learners perceived the classroom environment as not stressful, relaxing and fun in contrast to a more stressful perceived environment that made learners feel uncomfortable while speaking with their classmates or with the teacher. There is no doubt that there are multiple advantages in using digital games in the classroom. Since technology is constantly progressing and digital games have entered young learners’ routine, language education should take advantage of digital gaming. Teaching a foreign language can be much more motivating with the inclusion of digital games in the learning process, but at the same time more efficient as learners are exposed to meaningful language input and they are asked to produce their own output in order to achieve a goal.
Technology in general and, particularly, digital gaming offer many affordances to education. However, in order to gain from these affordances, educators need constant training in order to be able to depart from their traditional role in education. They are responsible for many decisions, concerning the choosing of the appropriate game and the implementation in the classroom. Also, in many cases, educators are at the same time material designers, so they need to possess knowledge concerning technology and be able to design purposeful and engaging tasks for their students. Gee (2003) refers to games used for learning as “good games” and he suggests that they need to follow some certain principles in order to be effective.

In conclusion, incorporating games in the learning of a foreign language is a talked-about issue and has dragged the attention of many scholars. Many studies have recorded the positive impact of digital gaming on various aspects of language. However, future studies could attempt to examine if learners’ age or proficiency level affect the impact of digital games on learners’ performance. What is more, it would be interesting to examine the impact of digital gaming on other learners’ skills, such as listening or writing.

6.2 Limitations

Taking into consideration the literature review and the conclusions that came up by the analysis of the results, digital board games seem to be quite effective in practicing students’ speaking skills and their vocabulary acquisition and cooperative skills as well. However, despite the thorough design of the study, there are some limitations that could not be overcome. The number of the participants was limited, so we cannot drag general conclusions for every student. What is more, although all learners were in the same class,
their proficiency level was not identical. Finally, testing speaking is quite difficult, since it is quite subjective. Although students were graded following a series of fixed criteria and the marking was done by the same person before and after the project, grading the speaking ability is quite tough due to the abstract nature of speaking.
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Appendix A

Game 1 - Transportation board game

PRE-TEST

1) Write the words in Greek:

journey: ...........................................  subway: ...........................................
engine: ............................................  pedal: ..............................................
invent: ..............................................  oar: .................................................
wheel: ............................................  orbit: ..............................................
transport: .......................................  launch: ...........................................

2. Use the prompts to make sentences in the Past Simple.

1. I / find / my pen this morning
........................................................................................................................................

2. Chris / take / lots of photos last August
........................................................................................................................................

3. you / pack / your suitcase yesterday / ?
........................................................................................................................................

4. Paul / buy / a new camera last week
........................................................................................................................................

5. Pam / make / lots of friends last year
........................................................................................................................................

6. Emma / not / go / horse riding at the weekend
........................................................................................................................................

7. My cousins / send / me / an email / last week
........................................................................................................................................

8. you / drink / my coffee / ?
........................................................................................................................................
POST-TEST

1) Write the words in Greek:

- **launch**: …………………………………………
- **orbit**: …………………………………………
- **engine**: …………………………………………
- **Wheel**: …………………………………………
- **pedal**: …………………………………………
- **journey**: …………………………………………
- **oar**: …………………………………………
- **invent**: …………………………………………
- **transport**: ………………………………………
- **subway**: …………………………………………

2) Complete the dialogue. Use the Past Simple.

**Julia**: Hi, Mike. (1) ……………………………. your team ……………………………………… (win) the match?

**Mike**: Yes, we (2) ……………………………………. (win) 3-0. The other team (3) …………………………………….. (not play) very well.

**Sue**: Why isn’t Steve at school today?

**Nina**: He’s sick. He (4) ………………………………………. (be) at a party last night and he (5) …………………………………….. (eat) too much.

**Mr Lee**: Good morning, Mary. You’re early today. (6) ………………………………………. you …………………………………….. (come) on the rain?

**Mary**: No, my friend (7) ………………………………………. (bring) me to the office before he (8) …………………………………….. (go) to work.
Game 2 – Animals Taboo

PRE-TEST

1) Write the words in Greek:
stray: ........................................ aquarium: ........................................
scratch: ................................. stable: ........................................
adopt: ........................................ owner: ........................................
bite: ............................... rescue: ........................................
loyal: ....................................... wag: ........................................

2) Join these sentences using suitable RELATIVE PRONOUNS:

1. We have a neighbour. His dog barks a lot.
   ........................................................................................................

2. That’s the box. It came in the mail.
   ........................................................................................................

3. We met a girl. Her name was unusual.
   ........................................................................................................

4. She’s the girl. She works in the library.
   ........................................................................................................

5. I’ve spoken to John. His house was burgled last Monday.
   ........................................................................................................

6. That’s the lady. Her jewellery was stolen.
   ........................................................................................................

7. Here’s the alarm clock. I bought it yesterday.
   ........................................................................................................

8. John is the man. His house was destroyed by the fire.
   ........................................................................................................
POST-TEST

1) Write the words in Greek:

rescue: .......................................................... loyal:
..........................................................

stable: .......................................................... wag:
..........................................................

scratch: .......................................................... stray:
..........................................................

bite: ............................................................ owner:
..........................................................

adopt: ........................................................... aquarium:
..........................................................

2) Complete the sentences with WHO / WHICH / WHOSE:

My friend (1)..................... took me to a restaurant works in a big shop (2) .................... sells expensive shoes. The restaurant where we had lunch was very modern. The food (3)....................... they served was excellent. The waiters (4) ................. shirts were silk were always busy with the customers (5) ......................... wallets were full of money.

The table (6)................. we had was near a window, so we could see the cars (7) ................. were parked by the rich customers outside the restaurant. They were being watched by a young man in uniform.

After we had finished the meals, the waiter came with a small silver box (8) ....................... he had already put the bill in. When my friend took the bill out of the box, he opened his eyes in surprise because he had never had to pay so much money before.
Game 3 – Guessing the Occupations

PRE-TEST

1) Write the words in Greek:

flight attendant: .......................................................... creative: ..........................................................

lawyer: ................................................................. intelligent: ..........................................................

patient: ................................................................. fair: .............................................................

sociable: ................................................................. persuasive: ..............................................

author: ................................................................. carpenter: ..............................................

2) Complete the text. Use will/won’t and the verbs below.
clean • not drive • live • look after • be • fly • do • make • help • not cook

Life in the Future

Life in the future (1) .................................................. different. People (2) .......................................... on other planets. We (3) ........................................... cars. People (4) .................................

............................................ to work and to school. They (5) .............................................. food

any more. A computer (6) .................................... our food. Robots (7) .................................

all the housework. They (8) ........................................ the house and do the

shopping. They (9) ............................................ children with their

homework. They (10) ........................................... robot pets. Look how cute that robot
dog is!
POST-TEST

1) Write the words in Greek:

intelligent: .................................................................
author: .................................................................

fair: .................................................................
flight attendant: ...................................................

carpenter: ............................................................
lawyer: .................................................................

sociable: ...............................................................
persuasive: ............................................................

creative: ..............................................................
patient: .................................................................

2) Complete the sentence. Use will/won’t and the verbs below.

help • arrive • fix • invite • snow • leave • be • have • take • phone

1. I’m sure Vicky ................................................. famous one day.

2. They ......................................................... our computer today. The shop is closed.

3. It’s very cold. I think it ........................................ this afternoon.

4. ........................................... Julia ....................... Sam to her party?

5. I want to stay at the party. I ....................................... early.

6. I’m busy now. I .................................................. you back later.

7. Don’t cry. I ..................................................... you find your ball.

8. I ........................................ probably ........................................ at 10.00. Please wait for me.

9. You have to wash the dishes today. I ........................................ time to wash them.

10. You don’t have to drive me to the train station. I ........................................ the bus.
Game 4 – Endangered Animals Brainbox

PRE-TEST

1) Write the words in Greek.

1. habitat: .......................................................... 6. poaching: ..........................................................
2. lifespan: ....................................................... 7. oil spill: ..........................................................
3. entrapment: .................................................. 8. Mediterranean: ...........................................
4. endangered: ............................................... 9. threaten: .....................................................
5. disappearance: ........................................... 10. surrounding: ..............................................

2) Write the Wh-questions. The words in bold will help you.

1. ............................................................................................................?

They are going to paint the house tomorrow.

2. ............................................................................................................?

Adam will bring CDs to the party.

3. ............................................................................................................?

Brenda has invited Mary's parents to dinner.

4. ............................................................................................................?

She left because she was angry.

5. ............................................................................................................?

We can meet at the bus stop.

6. ............................................................................................................?

The boys take the number 10 bus to school.

7. ............................................................................................................?

The box weights 100 kilos.
POST-TEST

1) Write the words in Greek.

- Oil spill: ................................................................. Disappearance: .................................................................
- Surrounding: .......................................................... Habitat: .................................................................
- Entrapment: ............................................................ Endangered: ............................................................
- Mediterranean: ...................................................... Threaten: .................................................................
- Poaching: ............................................................... Lifespan: .................................................................

2) Complete the wh-questions.

1. I bought something.
   What ..................................................................................?

2. Someone closed the door.
   Who ..................................................................................

3. Something happened.
   What ................................................................................?

4. She wants to do something.
   What ................................................................................?

5. Someone was having a party.
   Who ................................................................................?

6. He is reading something.
   What ................................................................................?

7. Someone had left the window open.
   Who ................................................................................?
Appendix B

QUESTIONNAIRE

ΑΞΙΟΛΟΓΗΣΗ ΠΑΙΧΝΙΔΙΩΝ

1) Όνομα: .................................................................

2) Φύλο: ......................................................................

3) Ηλικία: .....................................................................

4) Σου αρέσουν τα αγγλικά:

5) Πόσο σημαντικό είναι να ξέρεις να μιλάς αγγλικά?

6) Πόσο άνετα νιώθεις όταν μιλάς αγγλικά με τους συμμαθητές σου?

7) Πόσο άνετα νιώθεις όταν μιλάς αγγλικά με τον/την δάσκαλο/α?

8) Πόσο άνετα νιώθεις όταν μιλάς αγγλικά εκτός τάξης?

9) Κατά πόσο με βοήθησαν τα παιχνίδια στη βελτίωση:

80
<table>
<thead>
<tr>
<th>Της χρήσης του λεξιλογίου;</th>
<th>😍</th>
<th>😊</th>
<th>😐</th>
<th>😞</th>
<th>😭</th>
</tr>
</thead>
<tbody>
<tr>
<td>Της προφοράς μου;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Της ευχέρειας στο λόγο (πόσο καλά μπορώ να μιλάω χωρίς να κομπιάζω);</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Της ικανότητας μου να δημιουργώ καινούριες προτάσεις;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Της ικανότητας μου να εκφράζομαι και να γίνομαι κατανοητός από τους συμμαθητές μου;</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

10) Πιστεύεις ότι πρέπει να χρησιμοποιούμε ψηφιακά παιχνίδια στην τάξη;

11) Θα ήθελες να ξαναπαίξουμε στην τάξη τέτοια παιχνίδια;

12) Πόσο πιο ευχάριστο ήταν το κλίμα στην τάξη κατά τη διάρκεια των παιχνιδιών;

13) Πόσο καλή ήταν η συνεργασία με τους συμμαθητές μου;

14) Η αντίδραση των συμμαθητών μου στα λάθη μου δε με έφερε σε δύσκολη θέση;