



«School of Humanities
Language Education for Refugees and Migrants»

Postgraduate Dissertation

Gaming in multicultural classrooms with refugee/migrant children:
exploring the potential of culturally tailored serious games as
spaces for Second Language acquisition.

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Supervisor: Alexios Brailas

Trikala, Greece, June 2023

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“Education is the passport to the future.”

Malcolm X

This dissertation is dedicated to my mother, Georgia, who has made many sacrifices for my education and has endured my mood swings for the completion of this thesis. I am forever grateful for her eternal love and unending support.

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Abstract

Due to the emergence of technology and people's dependence on it, along with the human flows globally causing intense student mobility in the schools, the need for education has changed dramatically. On the one hand, children, but even adults, are addicted to the satisfaction the screen provides, and all the other stimuli seem uninteresting and dull. In these terms, traditional educational methods are outdated and ineffective in modern classrooms. On the other hand, people are moving towards a world without borders, which belongs to everybody. The school system is one of the main factors influencing and preparing the people to become citizens of the modern world, who have acquired the values and skills of the 21st century. Moving towards this direction, the educational tools have to be diversified and adjust to a multicultural content, so that all students can relate emotionally and identify themselves with the knowledge they are taught. The use of gaming, and more specifically the implementation of serious games, in education is a very popular new addition in the modern classrooms. Yet, the research concerning this modern educational tool in the field of language acquisition, let alone in second language acquisition in multicultural classrooms, is very limited. Therefore, this study aims to investigate the potential use of serious games in multicultural environments as space for the acquisition of English as a second language. More specifically, the study focuses on the content of the games, which is suggested to be culturally-tailored in order to promote awareness and inclusion. Eventually, the study sheds light into the design features that culturally-tailored games would have ideally, according to English teachers educating classrooms with refugee and migrant populations.

Keywords

Serious games, multicultural classroom, culturally-tailored education, game-based learning

Παιχνίδια σε πολυπολιτισμικές τάξεις με μαθητές
πρόσφυγες/μετανάστες: εξερεύνηση των πολιτιστικά
προσαρμοσμένων σοβαρών παιχνιδιών ως περιβάλλοντα
εκμάθησης δεύτερης γλώσσας.

Κωνσταντίνα Πανάγου

Περίληψη

Λόγω των νέων τεχνολογιών που αποτελούν πλέον αναπόσπαστο μέρος της ζωής των ανθρώπων, σε συνδυασμό με τις ροές παγκοσμίως, που προκαλούν έντονη κινητικότητα για τους μαθητές στα σχολεία, οι εκπαιδευτικές ανάγκες έχουν αλλάξει δραματικά. Από τη μία, τα παιδιά, αλλά ακόμη και οι ενήλικες, εμφανίζονται "εθισμένα" στην ικανοποίηση που παρέχει η οθόνη, και όλα τα άλλα ερεθίσματα φαίνονται μονότονα και πληκτικά. Σε αυτό το συγκείμενο, οι παραδοσιακές εκπαιδευτικές μέθοδοι συχνά βιώνονται ως ξεπερασμένες και αναποτελεσματικές στις σύγχρονες τάξεις. Από την άλλη, οι άνθρωποι κινούνται προς έναν κόσμο χωρίς σύνορα, που ανήκει σε όλους. Το σχολικό σύστημα είναι ένας από τους κύριους παράγοντες που επηρεάζουν και προετοιμάζουν τους ανθρώπους να γίνουν πολίτες του σύγχρονου κόσμου, που έχουν αποκτήσει τις αξίες και τις δεξιότητες του 21ου αιώνα. Προχωρώντας προς αυτή την κατεύθυνση, τα εκπαιδευτικά εργαλεία πρέπει να διαφοροποιηθούν και να προσαρμοστούν σε ένα πολυπολιτισμικό περιεχόμενο, έτσι ώστε όλοι οι μαθητές να μπορούν να συνδέονται συναισθηματικά και να ταυτίζονται με τις γνώσεις που διδάσκονται. Η χρήση του gaming και πιο συγκεκριμένα η εφαρμογή σοβαρών παιχνιδιών στην εκπαίδευση είναι μια πολύ δημοφιλής νέα προσθήκη στις σύγχρονες τάξεις. Ωστόσο, η έρευνα σχετικά με αυτό το σύγχρονο εκπαιδευτικό εργαλείο στον τομέα της εκμάθησης της γλώσσας, πόσο μάλλον στην κατάκτηση δεύτερης γλώσσας σε πολυπολιτισμικές τάξεις, είναι πολύ περιορισμένη. Ως εκ τούτου, η παρούσα έρευνα στοχεύει στη διερεύνηση της πιθανής χρήσης σοβαρών παιχνιδιών σε πολυπολιτισμικά περιβάλλοντα ως μέσο για την απόκτηση της Αγγλικής ως δεύτερης γλώσσας. Πιο

συγκεκριμένα, η έρευνα επικεντρώνεται στο περιεχόμενο των παιχνιδιών, το οποίο προτείνεται να είναι πολιτισμικά προσαρμοσμένο για την προώθηση της ευαισθητοποίησης και της ένταξης. Τελικά, η έρευνα εστιάζει στα σχεδιαστικά χαρακτηριστικά που θα είχαν ιδανικά τα πολιτισμικά προσαρμοσμένα παιχνίδια, σύμφωνα με καθηγητές Αγγλικών, οι οποίοι διδάσκουν τάξεις με πληθυσμούς προσφύγων και μεταναστών.

Λέξεις-κλειδιά

Σοβαρά παιχνίδια, πολυπολιτισμική τάξη, πολιτισμικά προσαρμοσμένη εκπαίδευση, μάθηση βασισμένη στο παιχνίδι

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List of Abbreviations & Acronyms

AI	Artificial Intelligence
BIGS	Basic Interpersonal Communicative Skills
CALP	Cognitive Academic Language Proficiency
EFL	English as a Foreign Language
ESL	English as a Second Language
GBL	Game Based Learning
GSRs	Game-based Student Response System
ICT	Information and Communications Technology
L2	Second Language
L1	First Language
MALL	Mobile Assisted Language Learning
STEM	Science, Technology, Engineering, Mathematics
SGs	Serious Games
TELL	Technology-Enhanced Language Teaching and Learning

1. Introduction

Playing is considered to be one of the core elements for a child's behavior and development. By playing, they express themselves and communicate. In the field of education, the incorporation of gaming in the learning process has led to the increase of the learner's performance (Buckley & Doyle, 2016). This is mainly the result of the enhanced motivation and enjoyment games provoke, and lead to extended engagement and attention in the learning environment.

The modern smart classroom has added a new dynamic to the learning process, due to the technologies used, giving a playful perspective to the acquisition of new knowledge. Modern classrooms are also multicultural and multilingual due to the human flows internationally. Therefore, teachers are asked to educate people from completely different cultural backgrounds, thus leading to numerous challenges because of the language and culture (Bhandari & Dhakal, 2022).

Teachers are looking for new alternatives, so that a variety of languages and cultures are incorporated into their lesson plans (Kurian, 2023). Consequently, serious games (SGs) could become a powerful arrow in educator's quiver, when teaching in multicultural environments. For refugee and migrant people, technology-mediated communication is the basic form of communication, and technology literacy is a skill that most of these people have acquired, regardless of their prior schooling (Leung et al., 2009). As a result, the use of technology could be an effective tool to bridge the communication gap between them and the teacher or their co-students. Let alone, the provision of education through realistic games about life, would give refugee and migrant children stimuli and perspectives, which they would otherwise lack owing to their prior life experiences (Bäcklund et al., 2022).

In this particular study, the author aimed to research the implementation of SGs as a tool for the acquisition of a second language in classrooms, which host migrant or refugee students. It constitutes a case study in Trikala, Greece. The study brings the English Language in focus. More specifically, the first part of the study presents the attitudes of English teachers, concerning the potential use of SGs in their classrooms, when they have learners from multicultural backgrounds. The second part of the study focused on the perspective of designing SGs, which will be culturally tailored, according to educators' desirable features.

Prior research on the incorporation of SGs in education has been very intense the last decade. Nonetheless, the research in the specific field of language acquisition is very limited (Ishaq et al., 2022). One of the latest studies was that of Ishaq et al. (2022) in Spain, who stressed the need of SGs with cultural context in second language teaching. Another study was made by Georgiev & Nikolova, (2021) in Bulgaria, concerning virtual reality SGs in the education with cultural content, but they did not focus on the academic part of the linguistic development. In Greece Fokides et al., (2019) have researched the factors influencing the subjective learning effectiveness of SGs.

In Greece the research is mainly focused on learning Greek as L2, when refugee/ migrant students enter the school system of the country. Greece is a host country, but is also a gate country towards other target countries for refugees. So, the acquisition of the English language during the years of their staying in Greece, is very crucial for their future. Therefore, this particular study addressed English teachers working in the public educational system in Greece.

In the first chapter of this study the author delineates what is about to follow. The second one refers to the literature review. More precisely, the author presents the education in multicultural environments, through the presentation of what a multicultural classroom is, the refugee and migrant students' profile, and the acquisition of a second language in multicultural environments. Later, there is an analysis of multimodal education; that is, an elaboration of the term of multiliteracies and multimodality when found in multicultural classrooms. Moving on, the author presents the developmental impact of gaming for children, by analyzing gaming, game-based learning, edutainment, gamification as an educational space and gamification in L2. Finally, the second chapter presents SGs in L2, by focusing on the educational design of SGs, the use of culturally-tailored SGs in L2, and the role of the modern educator. In the third chapter the research methodology is described in detail, including the rationale of the research, the defined aims and objectives, the chosen methods, research tools and lastly the data analysis. The author in the fourth chapter analyzes the statements of the English teachers in the interviews, along with their drawings. Eventually, the last chapter is devoted to the discussion of the research findings and the conclusions, as well as the limitations of the study, or further suggestions for future research.

2. Literature Review

2.1 Education in Multicultural Environments

2.1.1 Multicultural classroom

Diversity has become a hallmark of modern-day educational systems due to the human flow seeking a better life, which is the outcome of economic or political reasons (Cox, 2012). The population of every country is increasingly evolved to a multicultural one, thus altering the educational driving forces and leading to the gradual appearance of the multicultural classroom (Mustafida, 2021). The emergence of multicultural education in schools dates back to the civil rights movement of the 1960's, with emphasis laid on cultural diversity. Sensitivity towards different cultural backgrounds and appreciation among all students is hence included into instruction, enriching the learning experience of the students through the promotion of cultural awareness (Alsubaie, 2015). In multicultural classrooms educational actors do not only set academic goals to enhance their students' school performance. The value of multicultural classrooms extends beyond the classroom environment, since educators need to foster inclusion through culturally-tailored lessons, so that their students are better equipped to live and work in diverse cultural settings in the future (National University Ukraine & Chaika, 2023). More specifically, educators spot the differences between their migrant/refugee and native-born students, and try to create a bridge between them, so that they manage to build relationships across cultures, and establish equality (Ozturgut, 2011). Checking for cultural appropriateness in the classrooms, means eliminating any bias or discrimination, which may come natural in the classroom. Therefore, taking into consideration their students' cultural profile, educators provide space for migrant/refugee pupils on a par with the native-born ones, thus supporting and empowering all the members of the classroom to enhance their academic achievement, and at the same time validate their identities and boost their self-esteem and confidence (Alrawashdeh & Kunt, 2022).

Migrant/refugee pupils have to encounter psychological and linguistic predicaments (Abacioglu et al., 2019), which can be tackled through supportive interventions that nurture the feeling of belonging and create a positive context for all students to learn (Tartwijk et al., 2009). In order to address the necessity of a positive learning atmosphere in multicultural

classrooms, Banks (1993) defined five distinct dimensions of multicultural education, as shown in Figure 1, trying to indicate that multicultural education is not only diverse academic topics in the curriculum (Erbaş, 2019). The first dimension pertains to content integration, which concerns the incorporation of diverse topics into the content, so that it supports the worldviews of a variety of cultures and groups. Knowledge construction refers to the process of debunking and reconstructing the students' cultural perspectives within a specific discipline. The dimension of prejudice reduction refers to activities, which promote democratic attitudes and equal rights, whereas the dimension of equity pedagogy appertains to teaching approaches that allow the successful academic achievement of students with diverse racial, cultural, and social-class background. Empowering school culture and social structure is the last dimension. It refers to the necessity of adjusting the whole school system to the concept of cultural and social equality. In a nutshell, multicultural education is defined as a multidimensional concept itself.

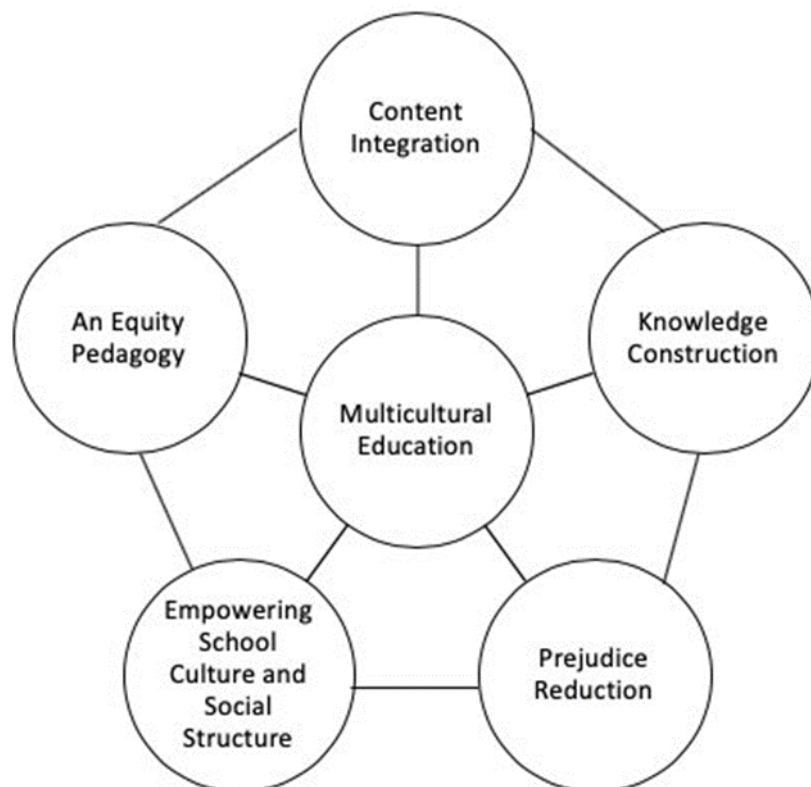


Figure 1. James Banks' five dimensions of multicultural education (Erbaş, 2019)

2.1.2 The students' profile: needs and challenges of refugee/migrant children as students

Multicultural classrooms do not only include migrants, but also refugee students. Refugee students entered the school systems of their host countries, since they had to abandon their countries due to war, poverty, prosecution, and generally political financial and religious reasons. According to the 1951 UNHCR Refugee Convention refugees are protected in order to have basic human rights, one of which is education.

The education of refugee and migrant populations in mainstream classrooms does not account for an easy or single process (Corcoran & Kaneva, 2021). This group of students come into the classroom with various schooling experiences, with a spectrum of no education at all to receiving fully the appropriate for their age schooling (Drolia et al., 2020). The settings of their education are not always formal, and their schooling is frequently interrupted. Furthermore, due to previous host countries and prior school systems, children along with their parents have specific perceptions concerning what education is and how it should be provided (Corcoran & Kaneva, 2021). On account of that, their expectations make their integration into the new school systems even more challenging.

The previous schooling experiences lead to an array of other distinct characteristics following these students. The most important of them seem to be their psychological profile, personality characteristics, learning styles, linguistic repertoire, personal experiences and prior knowledge (Chatzina & Mouti, 2022). The presence of students in previous schools determines the support these pupils require on a social, academic and psychological level. For instance, bullying, absence of cultural acceptance, linguistic discrepancy, receiving no respect of their identity and biased perceptions consist some important matters to be encountered, when having migrant or refugee students in the school body (Corcoran & Kaneva, 2021). Therefore, creating materials and lesson plans for such classrooms does not constitute an easy task for educators; nor is the cooperation among the school, the refugee parents and the community a simple process, since there have to be two-way communication bridges for the successful schooling of the pupils (Kirk & Cassity, 2007). More precisely, there is a need for an initial briefing concerning the background of the student and their family, and a constant evaluation to track the child's progress into the new educational environment.

Another issue emerging when a refugee or immigrant student enters a new school system, is the language. These students are emergent multilinguals. Being given opportunities for literacy in more than one language in their new school is of utmost importance. These opportunities mean that children will be able to use more than one language including their mother tongue, participate in lessons during which all children are encouraged to navigate a variety of languages, and finally, receive respect for the linguistic choices they have outside the classroom (Chumak-Horbatsch, 2012).

Refugee or migrant students' linguistic needs range from learning the mother tongue of the host language, to improving their own native language, or excelling in the language of the target country (Abou-Khalil et al., 2019). Their language needs are intertwined with the family plans for future permanent residence and the time period of their temporary abidance in the host country. Additionally, there have been instances, when children remained silent for a long time, due to the language shock they are suffering or the posttraumatic experience they had (Block et al., 2014). Thus, enriching the linguistic repertoire of the lessons will contribute to the children's multifaceted development (Papapostolou et al., 2020).

All the above-mentioned needs in multicultural education are summarised in brief in Figure 2. Drolia (2020) has created a holistic model, including five factors that influence refugee or migrant students' integration. These factors have been classified into the learning needs, the socio-cultural needs, the emotional needs, the educational system of the host country and finally the living conditions. According to Palaiologou & Prekate (2023), there are three directions influencing refugee children's quality of life: (1) past and present schooling experience, (2) their daily life, and (3) children's views on their past and present.

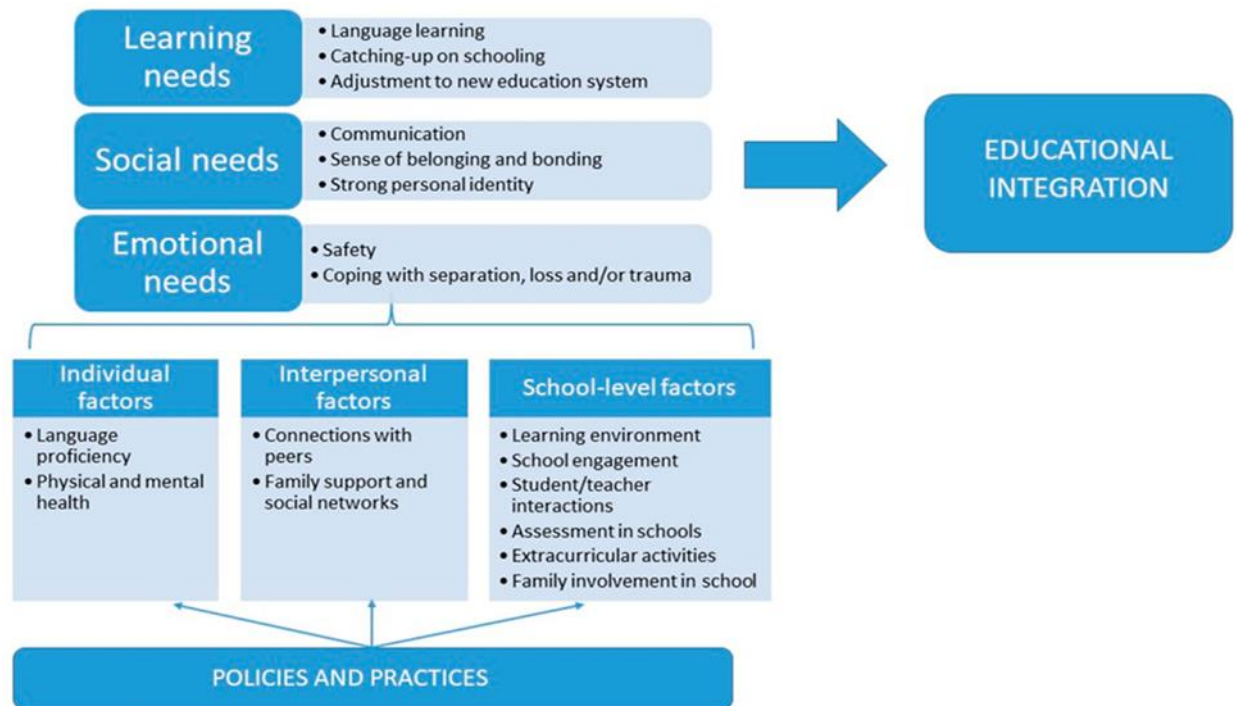


Figure 2. A holistic model for the educational integration of refugee children (Droliá, 2020).

2.1.3. Second Language Acquisition: Teaching English in Multicultural classrooms

Language and culture have a very close relation. When teaching a language, it is inevitable that an educator teaches the political, cultural, societal, or economic aspects of the country. That is, a language cannot be taught without its culture, even if learners communicate in this language without comprehending its cultural mindset (Sinaga et al., 2023). For migrants and refugees language is a necessity for their everyday independence in the countries they are living (Alrawashdeh & Kunt, 2022). Due to the exodus of immigrants from one country to the other, literacy and linguistic skills in the English language are crucial, since it is the language mainly known and spoken in most countries (Kantzou et al., 2017).

The English language is used in most countries as the language of instruction, so that all the diversifying population of the students can understand the course content and be integrated into the classroom experience (Parker, 2019). When learning English, students have more opportunities to be included directly into the school system of the new country they go, and acquire a higher academic progress (Parker, 2019). Yet, learning the English language (L2),

when the literacy in the mother tongue (L1) is limited, is rather challenging and demanding (Robertson & Graven, 2020). Given that schooling is a complicated matter for refugee and migrant children, they lack advanced linguistic tools and strategies in their L1, thus finding it very difficult to progress academically in their L2, because they cannot have a linguistic transfer among the two languages (Blom et al., 2021). This is explained by Cummins' dual iceberg hypothesis (2000), according to which the acquisition of a L2 is directly linked to the acquisition of L1 (see Figure 3) (Robertson & Graven, 2020). Therefore, migrant or refugee children need support in their L1 while they are taught a L2.

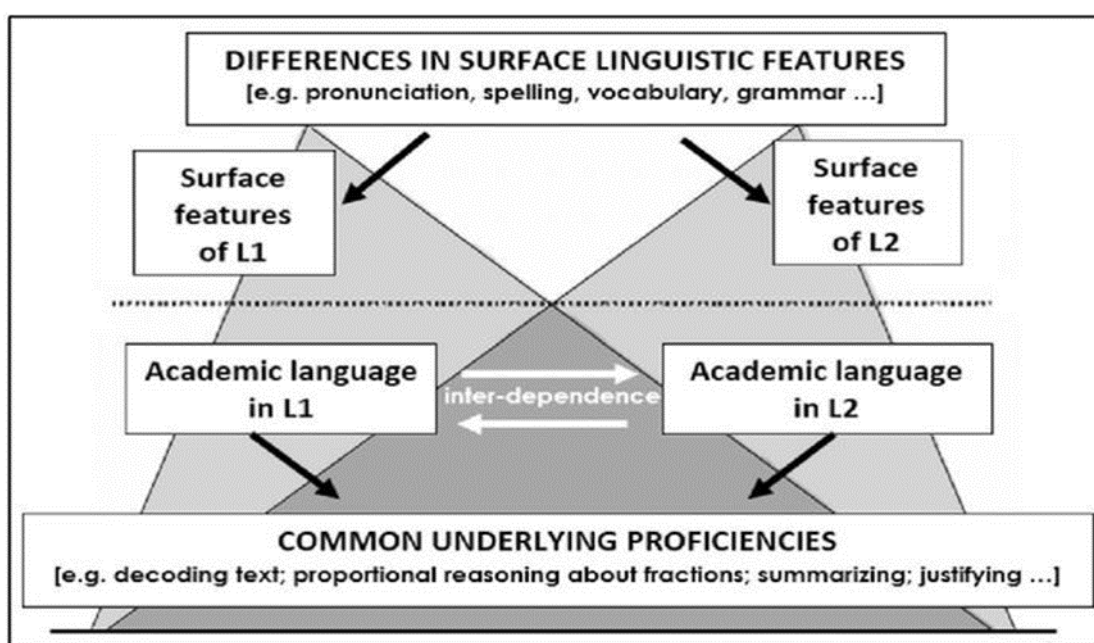


Figure 3. Cummins' dual iceberg hypothesis (Robertson & Graven, 2020)

According to (Cummins (2000), acquiring cognitive skills in a foreign language is divided into the undemanding and demanding part (Robertson & Graven, 2020). During the first years of exposure to the language, the learner acquires Basic Interpersonal Communicative Skills (BIGS), whereas the achievement of Cognitive Academic Language Proficiency (CALP) takes 5-7 years. Additionally, when the exposure to the language is context embedded is much easier for the learner in comparison to context reduced input. Thereafter, migrant and refugee students need more time to advance in L2, while at the same time they need meaningful educational experiences in multiple linguistic stimuli through specifically targeted tasks and activities (Sangeethapriya, 2022). Proposed as a solution to this problem,

technology seems to be the tool to promote the targeted linguistic and cultural value in an engaging and communicative environment (Kurian, 2023).

2.2. Towards a multimodal education

2.2.1. Multiliteracies

The term Multiliteracies was used for the first time by the New London Group in 1994 as an answer to the traditional instructional methods used back then, which were considered outdated in comparison to the societal transformations of the era on a worldwide level (Kalantzis & Cope, 2010). Literacy traditionally refers to the skills of reading and writing, whereas multiliteracy extends to various concepts, with some of them being visual literacy, computer literacy, technology literacy, media literacies and cultural literacy (Westby, 2010). Multiliteracies is closely related to “metacognition”, which strengthens the learner’s ability to acquire skills in different semiotic modes, thus leading to self-learning and development (Lim et al., 2022). The conventional literacies can no longer provide learners with these skills, due to the changing nature of texts and knowledge (Lim, 2022). Based on this new need of the modern technological and multicultural world, education has moved from literacy to multiliteracy (Tan & McWilliam, 2009). An additional term, “early multiliteracies” has been proposed, as regards to the literacy children receive prior to their school entry, when they gain the skill to navigate their literacy in the digital world (McLachlan, 2021). This is based on the notion that children are digital natives. The use of the smartphones seem to be an extension of students’ hands and even minds (Brailas & Tsekeris, 2014). So, towards this direction the smartphone should be perceived as a weapon, which should be used in the classroom in such a way that will promote communication and learning (Vakali & Brailas, 2018). As seen on Figure 4, Multiliteracies have to do with the situations in real life and the various forms (modes) information can take (Cope & Kalantzis, 2023).

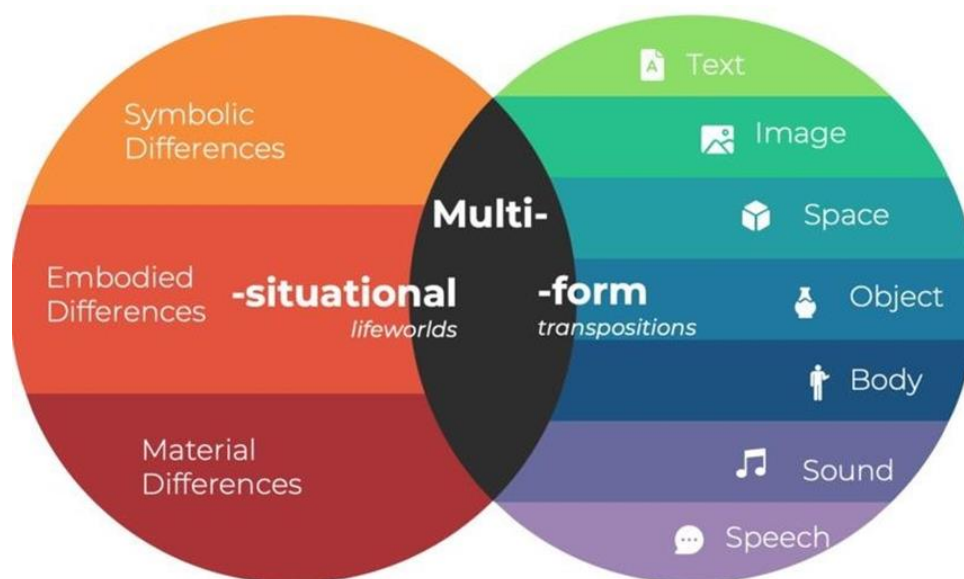


Figure 4. The visual representation of Multiliteracies (Cope & Kalantzis, 2023).

2.2.2. Multimodality

Every meaning-making process is context- and situation bound (Olivier, 2021). People make meaning through several modal resources. The semiotic ways in which people communicate are referred to as Multimodality (Jewitt, 2008). A multimodal medium may be a combination of six modes. More specifically, the tactile mode refers to the sense of touch; the linguistic one is related to texts and the speech; the visual mode pertains to videos and images; the auditory mode has to do with the sense of hearing; the gestural mode refers to the body and its movement; and finally, the spatial mode appertains to locations and buildings (Moreno & Mayer, 2007). As portrayed in Figure 5, The New London Group, (1996) has displayed the design elements of multimodality in detail.

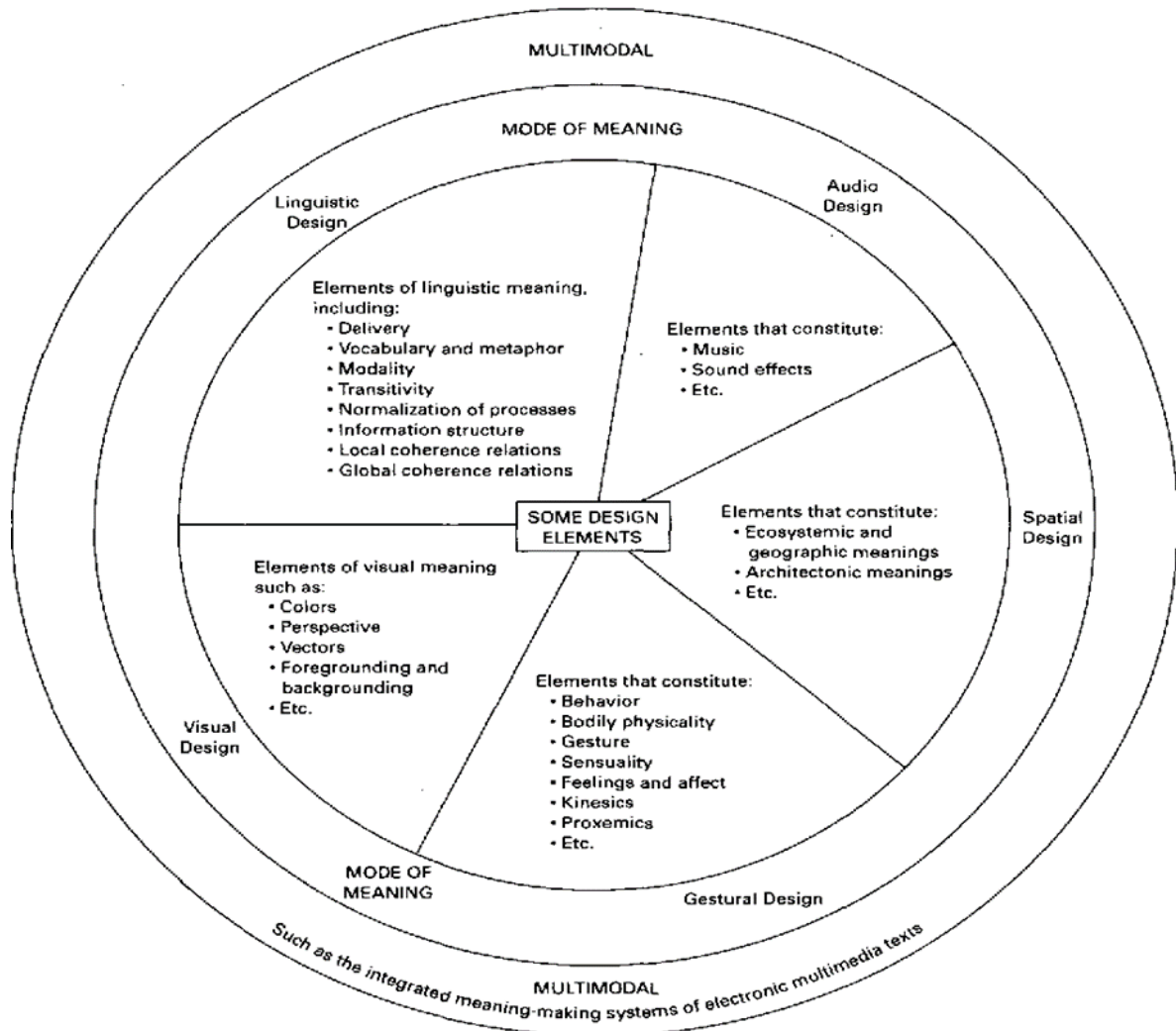


Figure 5. The design elements of different modes of meaning (The New London Group, 1996)

Multimodality is used for multidirectional communication, and can be applied in the learning sector for guided activities, reflection, feedback, control, and pretraining (Moreno & Mayer, 2007). Students are exposed to multisensory modes, thus all the learning styles and needs are addressed equally (Ryoo & Winkelmann, 2021). In terms of this multimodal pedagogy, STEM (Science, Technology, Engineering, Mathematics) education has been introduced in modern classrooms as a way to teach languages (Ryoo & Winkelmann, 2021). Multimodality in education refers practically to the different representations knowledge can take and the learning potentials created by differentiated instructional tools (Jewitt, 2008).

As presented in Figure 6, there are four modes connected to multimodal learning. The first mode is that of communication linked to interactional multimodality. This mode includes verbal (spoken and written) and nonverbal (pictures, emojis, sounds, animations, gestures) semiotic resources. According to Apostolidou & Daskalaki (2021), the digital multimodal technologies are a powerfully affective, sensorial and performative part of the human experience, thus operating as a surrogate mother for people's everyday lives. The mode of environment constitutes the second level of multimodality, called instructional multimodality, which refers to face-to-face, blended or online contexts. Additionally, the mode of delivery (contact, hybrid or distance) comprises the institutional multimodality. Finally, the mode of cognition constitutes the individual multimodality (Olivier, 2021).

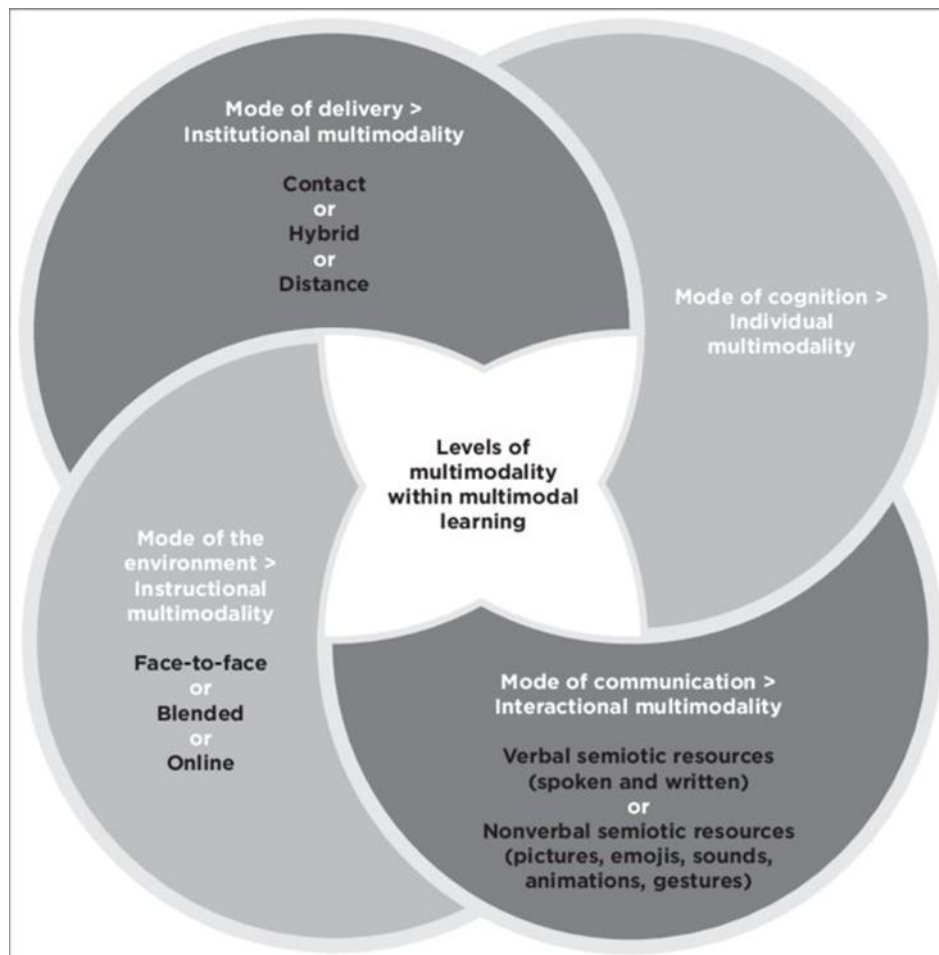


Figure 6. Levels of Multimodality within Multimodal learning (Olivier, 2021).

2.2.3. Multiliteracies in multicultural classrooms

Due to the interconnected relationship between the new literacies and multimodality, the pedagogy of multiliteracies has been introduced as a way to teach and learn languages, through the multimodal modern “text”; that is images, sound, graphics, audio, films via technology (McLachlan, 2021).

This kind of innovative pedagogy can effectively be used in culturally and linguistically diverse classrooms with refugee backgrounds, since it is built upon the digital literacies of the modern era, and can easily address the representational practices of diverse groups of people (Kendrick et al., 2022). This population of students has miscellaneous levels of literacy in their L1, but most of them need to face the challenge of learning the English language, too (Tan & McWilliam, 2009). Therefore, the pedagogy of multiliteracies stimulates diverse meaning making mechanisms, and provides opportunities for learner autonomy, communication in digital spaces, and identity affirmation in language and literacy learning (Kendrick et al., 2022). Thereafter, refugee and migrant students are given a voice in multimodal learning environments.

In these terms, nowadays teachers are asked to become designers of socially- and culturally-tailored multimodal activities (Dupuy & Warner, 2023). These multimodal activities must be based on the pre-existed knowledge the students have, combine it with the newly-gained or targeted knowledge, provide the students with the opportunity to apply it in their real word life, and at the same time cultivate their metacognitive critical thinking and decision-making skills (Kalantzis & Cope, 2010). According to Westby (2010), the multiliteracy skills that students have to acquire are four; students need to become functional users, meaning makers, critical analyzers and transformers.

As shown in Figure 7, teachers may need to use a combination of pedagogical theories based on the ‘learner resources’ they have in their classroom. The goal of this innovative pedagogy is to add multiliteracies in education to address the learner agency, so that students become independent or semi-dependent learners, and continue learning outside the classroom (Brailas, 2023; Kalantzis & Cope, 2010).

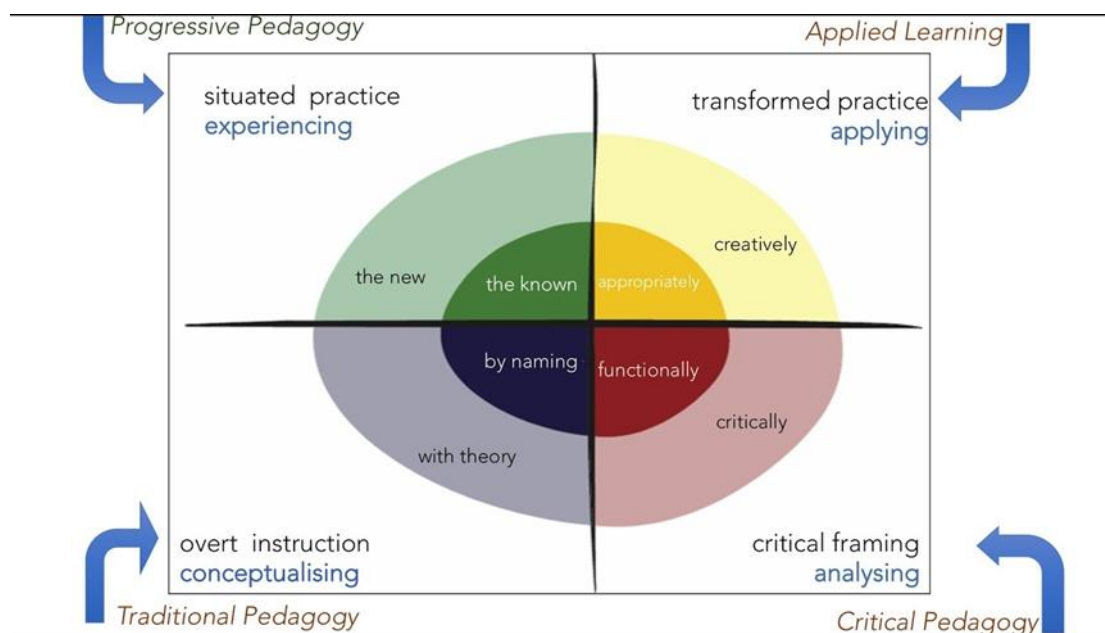


Figure 7. The Learning by Design knowledge processes (Kalantzis & Cope, 2010).

Taking the aforementioned into consideration, it is worth considering whether the multimodal tool of SGs could be a means to make all students in a multicultural classroom participate equally in the learning process, advance in their own pace and according to their own needs, acquire multiliteracy skills in the spectrum of their own linguistic and cultural repertoire. After all, the pedagogy of multiliteracies is about the conventions in meaning which are culturally interwoven, thus making students widen their receding horizons of diversity (Cope & Kalantzis, 2009).

2.3. The developmental impact of gaming for children

2.3.1. Gaming

Gaming has a long history, beginning with home consoles, later with PC gaming and mobile gaming, to reach the latest version of virtual reality and augmented reality games (Karun, 2023). In our everchanging society, online games are regarded to be a common social practice among people of all ages, and account for a very popular free time activity (Bäcklund et al., 2022). According to Rathakrishnan et al. (2023), gaming preferences are connected to the player's personality, and can influence their resistance to distraction,

sensitivity to information, hand-eye coordination or visuomotor skills. However, gaming has a strong influence on the player’s psychology, and it may even lead to addiction (Zsila et al., 2023).

Games are a system with artificial conflict, which engages players in following specific rules in order to reach a measurable outcome (Schrader, 2023). Their main purpose is recreation, so their design is based on their entertainment purposes (Shum et al., 2023). Adventure, action, sports, puzzle, role-play, strategic or simulation games are some of the multiple genres of computer games. Games may vary in content, method of game play, type of goals, style, graphics, interactivity, number of players (Gortaire Díaz et al., 2022).

According to Tang et al. (2009), computer games and educational games differ in rules, purpose, play and culture (Figure 8). Firstly, computer games focus on entertaining the user, whereas educational games aim to develop skills or teach the player something. In computer games the interaction with the user is designed to amuse, while in educational games it leads to measurable outcomes and meaningful responses. Additionally, the rules in a computer game are in accordance with the playability of the game, but in educational games they are designed to help the player reach a particular learning outcome. Finally, in computer games the culture reflects an imaginary world, whereas in educational games it reveals real-world events.

	Computer Games	Educational Games
Purpose	For entertainment purposes. Context presented is mostly fictitious or fantasy based.	For learning and skills development purposes. May be a form of entertainment based on the interpretation of the learner.
Play	Interactions designed primarily for entertainment purposes with directed objectives that can be driven by storytelling. Interactions resemble the real-world interaction in a simplified or abstract approach.	Interaction designed for learning purposes with meaningful responses and measurable outcomes. Knowledge is disseminated through events triggered by specially designed interactions and dialogue.
Rules	Rules are designed to accommodate the activity of play, which are often tuned for playability rather than reflecting the real-world.	Rules are designed for specific learning outcomes that can be used to measure the interactions during “serious play”. Rules can be simplified or made complex to support the activity of play.
Culture	Beliefs, norms and world setting presented visually and via narrative often set in an imaginary world that is represented artistically and often exaggerated.	Beliefs, norms and world setting presented visually and via narrative that are related to knowledge domain, reflect truthfulness and have direct and explicit relation to real-world events. Game world maybe set in an imaginary world.

Figure 8. Differences between computer games and educational games (Tang et al., 2009)

2.3.2. Game-based Learning

All different sectors and levels of education have been invaded by experiential, online and simulation learning, thus shrinking the didactic learning and expanding the cognitive one (Brailas et al., 2017; Maamari & El-Nakla, 2023). The different modes of communication have facilitated the appearance of media-based learning, changing the way students learn in various contexts.

Game Based Learning (GBL) pertains to the use of electronic games in education, in order to boost the teaching and learning experience (Sun et al., 2023). Gamified classrooms are used in order to pursue a learning objective or to give immediate feedback, and at the same time enhance learner's motivation, engagement, attention and enjoyment (Gopalan et al., 2017). Thereafter, learning analytics suggest that the whole curriculum of the school systems should be redesigned around games (Kim et al., 2022).

Through games educators provide their learners with hands-on team simulation exercises (Hamzeh et al., 2017) Digital games provide experiences in environments which are interactive and resemble real-life conditions. Thereafter, they provide a safe environment for experimentation in education, because these experiences are transferred to the real world (Φωκίδης & Φωκιά, 2018). This means that educators try to create in the classroom a context of real-life processes, which leads to high levels of understanding and learning according to Bloom's taxonomy ladder (Figure 9) (Hamzeh et al., 2017). Raised in a modern technological era, learners can no longer sit down listening to teachers, memorize and give answers. GBL not only attracts the learner's attention and helps to memorization. Most importantly, it helps students to become autonomous learners, by using their cognitive skills to find and analyze data, collaborate, evaluate and create their own knowledge. As a result, learners evolve into independent managers of their knowledge, since they are asked to use their minds more and become critical thinkers (Hamzeh et al., 2017). This is related to the way education should be perceived: as a developmental process of learning rhizomes and islands of self-organization (Brailas, 2023).

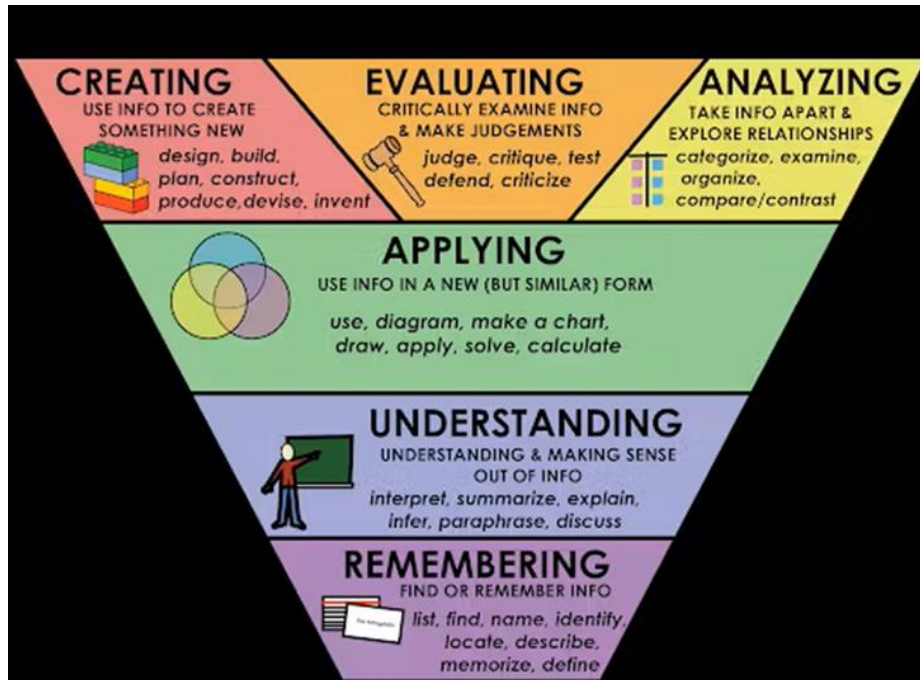


Figure 9. Revised Bloom's Taxonomy ladder of educational objectives (Hamzeh et al., 2017).

According to Schrader, (2023), there are four perspectives why GBL is psychologically successful. The first is the motivational perspective, because players are engaged for a long period of time. Due to the interactive nature and the competitiveness of the games, learners have an intrinsic interest to keep playing. The flow and difficulty of the game is adjusted to the abilities of the player, which makes the fatigue disappear and the concentration increase. Indeed, learners are engaged so intensely because they are challenged in their zone of proximal development (see Figure 10), according to Vygotsky (1987) (Schrader, 2023). Working in the zone, means that the learners feed their needs of competence, relatedness and autonomy. As a result, psychologically the learning process remains satisfying and motivational, and provokes action-related behavior to the learner. According to Engeström (2008), when there is an educational group (including students and educators) interacting with an activity system, then they are working in a collective zone of proximal development, which is perceived to be an “Invisible Battleground” for learners (Brailas et al., 2015).

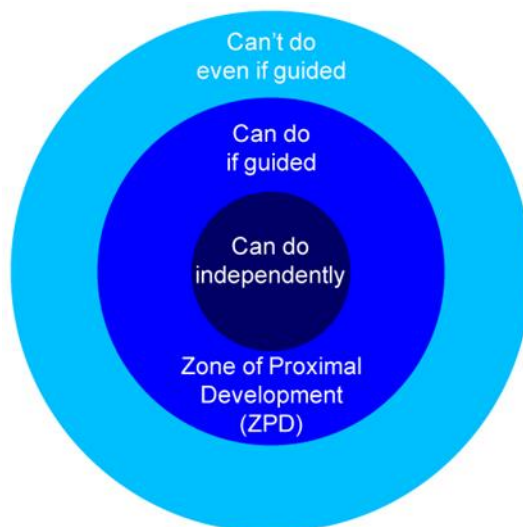


Figure 10. Vygotsky's Zone of Proximal Development (Schrader, 2023).

The second perspective is the affective one. When there is completion, players bounce among feelings. This is the result of two game elements, success and failure. In well-designed games positive emotions are mainly caused to the player. In well-designed games positive emotions are mainly caused to the player. Taking into consideration the dopamine reward system of the gamer's brain is fundamental for the success of the game, since the player has specific capabilities, limitations, emotions and anticipations when engaged with the gaming experience (Hodent, 2018). The third is the sociocultural perspective. According to social learning theories. Learners need to construct and apply the knowledge through interaction, which are all characteristics of most games. Players are asked to practice their social skills, either by interacting with in-game characters of the game or other players. Finally, there is the cognitive perspective. The cognitive process of learning entails emotional engagement. Emotions are the facilitators, which will make the learner connect the previous knowledge with the new one, and create mechanisms of metacognition.

2.3.3. Edutainment

Pedagogy can be digital and creative, offering a form of entertainment to the learners through their process of acquiring knowledge (Shi & Blau, 2020). This kind of pedagogy transforms learners into content-creators and real-life product makers. Indeed, learners become from

content consumers to content producers (Brailas & Sotiropoulou, 2023). For instance, students may be asked to create a digital poster of a cultural event, or design a logo of a start-up company.

Edutainment helps the learners achieve academic goals while experiencing enjoyment (Mateus De Oro et al., 2022). This is caused through behavioural change, which leads to increased participation and eventually to the acquisition of skills and capabilities. Taking this into account, the main positive impact of edutainment in education concerns the learner's motivation and behaviours (Guran et al., 2022).

Edutainment in education involves many variables and characteristics, like multimodality, interactivity, virtuality, hypertextuality, digitalization, modularity and non-sequentiality (Mateus De Oro et al., 2022). Through edutainment educators try to address the learning process in a more holistic way, taking into consideration some factors: memory, how the brain works, emotions, motivation, learning strategies, emotions and learning styles (Khadijah et al., 2021). Therefore, edutainment focuses on the academic and socio-emotional development of the learner, through the interactive use of media like electronic games, websites, music, movies, podcasts, or multimedia-based educational software (Tang et al., 2009). Indeed, edutainment incorporates the learning approach of GBL and the software content of educational games, serious games or training simulators (Figure 11) (Tang et al., 2009). Edutainment actually is an approach that overlaps with many areas of study, such as pedagogy, psychology, computing, or human-technology interaction.

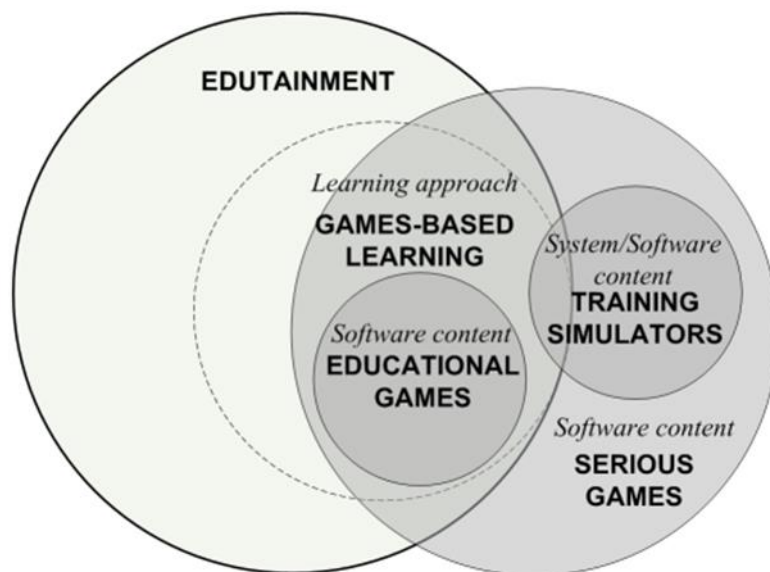


Figure 11. The relationship among edutainment, games-based learning, educational games, training simulators and serious games (Tang et al., 2009).

In conclusion, edutainment changes the way the learner accesses and generates new knowledge, because the means to information and practice have become more flexible, and provide the learner with new alternatives, thus extending the scope of the educational experience (Kurniawati et al., 2023).

2.3.4. Gamification as educational space

Education has undergone an important evolution with the introduction of electronic games in the learning experience (Gortaire Díaz et al., 2022). While GBL accounts for a small component of the entire learning and teaching process, gamification concerns the modification of the teaching instructions in a way that they are given to students completely through a game (Sun et al., 2023).

According to (Mateus De Oro et al., 2022), gamification is the use of game elements in non-game environments, as a motivational means, which includes the elements of commitment, incentives and reward in order to cause behavioral changes towards the creation of new knowledge. Gamification, therefore, is a teaching strategy in the learning process to boost

all the positive values teachers need their students to have in order to participate effectively in the academic experience (Gros, 2006).

The academic experience of the modern learner takes place in classrooms that tend to become smarter and smarter. A smart classroom is the combination of technology and education (Figure 12) (Dimitriadou & Lanitis, 2023). All the new technologies used in education aim to boost the learner's performance, and equip them with creative and thinking skills, as well as enhance their technology literacy.

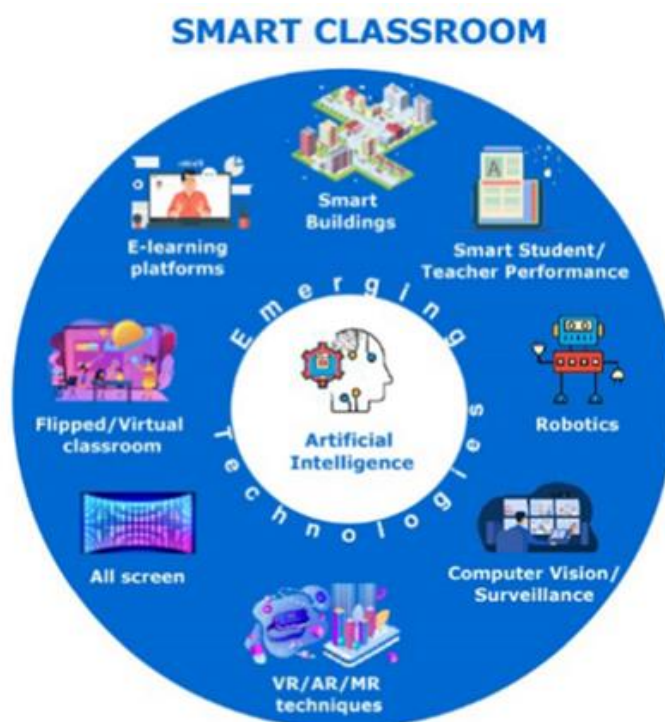


Figure 12. Smart-classroom technologies (Dimitriadou & Lanitis, 2023).

According to (Avdiu et al., 2022), gamification in education is an effective tool towards the creation of inclusive classrooms. More precisely, games require the equal participation of all the players. Because of the game's genre affordances, it activates the players' full dynamics. The learners are positively influenced to participate with all the other students, communicate and cooperate with them in order to win. Therefore, the players come closer and face the challenges together. This process gives students the chance to get to know each other more, gain common positive experiences and realize that they are all equal learners. Given this circumstance, respect and mutual understanding among peers are very likely to be developed during the use of games in education.

2.3.5. Gamification in Second Language Learning

There is extent research about gamification in education, but a very limited one about gamification in the specific area of second language acquisition (Al-Dosakee & Ozdamli, 2021). Nonetheless, the restricted results have shown a positive impact of games in the process of learning. Gamification in Technology-Enhanced Language Teaching and Learning (TELL), influences the learner in two ways. It has an impact on observable behaviors like learning, effort and attention, and on psychological factors such as motivation and positive attitude (Pujolà & Appel, 2022).

The element of playfulness can be added in the classroom via ready-made educational platforms/ games, or by creative language teachers who design and implement a particular linguistic phenomenon with the aid of various technologies in order to provide a gamified learning experience (Zhang & Hasim, 2023). A variety of ICT tools, apps and resources to support teacher implement gamification components in their classroom, are shown in Figure 13 (Pujolà & Appel, 2022).

Mechanics	Components	Task	ICT tools/apps/resources
Identity	• Avatars	• Students design their own avatars; they are all presented to the whole class and students guess who is who.	• Voki: https://www.voki.com/ • Avatar Generator: https://www.generateit.net/avatar-generator/
	• Logos/Emblems	• Students define the common characteristics of their teams and embody these in the logo designs. Students present the logos in class.	• DesignEvo: https://www.designevo.com/logo-maker/
Challenge	• Achievements	• Students make an infographic (as an intermediate or final product) on a language topic as a challenge.	• Canva: https://www.canva.com/
	• Missions	• Students identify a secret code in a video by answering comprehension questions. (Teachers should create the code with the correct answers)	• Edpuzzle: https://edpuzzle.com/ • PlayPosit: https://go.playposit.com/
	• Secret Missions	• Volunteer students carry out an activity unknown to the rest.	• Teachers can use any digital communication tool to inform selected students.
Competition & Cooperation	• Combats	• Students in teams devise their own Kahoots! for revision purposes at different points in the course. Points or badges are awarded.	• Kahoot! https://kahoot.com/
Cooperation	• Teams	• Organize an Educative Escape Room or breakoutEdu (https://www.breakoutedu.com) so students in groups have to cooperate to succeed in getting out.	• ICT for designing puzzles, QR codes or any m-learning app to be used to solve them. • If teachers opt for breakout.edu, consult: https://www.breakoutedu.com/
Rewards	• Badges	• To organize a badge system to reward attitudes or skills in performing some tasks.	• Teachers can use Makebadges to design badges to be included in their VLEs: https://www.makebadges.com/ To get track of badges: • Flippity Badge Tracker: http://www.flippity.net/ or • ClassDojo: https://www.classdojo.com/
Feedback	• Points and Leaderboards	• Establish a system of scoring to measure the development and achievement of students' tasks.	To manage points and leaderboards, teachers can use: • Pointagram: https://www.pointagram.com/ or • Flippity Progress Indicator: http://www.flippity.net/

Figure 13. Gamification mechanics and component in TELL (Pujolà & Appel, 2022).

A popular ready-made app for Mobile Assisted Language Learning (MALL) is Duolingo (Thurairasu, 2022). This app divides grammar and vocabulary into modules and the users have to start from easy levels, practice to gain points and unlock the next module. In this app, learners can practice, learn and review in their own pace autonomously through the interaction with the game. When gamified learning apps are used in the classroom, the time of student's engagement and practice increases a lot, thus leading to more concentrated exposure to the language.

Another worth mentioning implementation of gamification in L2 is the use of gamified quizzes, through platforms like Kahoot, Quizlet, Quizizz, Socrative. One of the most commonly used platforms is Kahoot, which is a game-based student response system (GSRS), which transforms the classroom into a game, with the students being the contestants and the teacher the host (Kıyançıçek & Uzun, 2022).

Gamification has also connected various language schools around the world through telecollaboration (Pujolà & Appel, 2022). This experience showed that (English as a Foreign Language) EFL students have a high level of participation and willingness to use the target language in order to communicate and corroborate with the others.

Through language apps learners are engaged in more writing, reading, listening and even speaking concerning various topics and styles of speech (Gortaire Díaz et al., 2022). According to (Gil-Acirón, 2022), gamification in L2 is a powerful alternative for the learner's assessment. What is more, players are influenced positively to participate, enjoy and stay engaged in the construction of knowledge in the target language, thus feeling free to experiment, take risks, make mistakes and retry (Buckley & Doyle, 2016). This happens because the anxiety levels decrease and self-confidence increases, leading to enhanced performance (Kaya & Sagnak, 2022).

2.4. Serious games in Second language Acquisition

2.4.1. Serious Games

A resurgence of educational games has been made, because of the emergence of SGs, whose main purpose is to educate, rather than entertain (Ishaq et al., 2022). SGs are considered to

be a tool of GBL. The long tradition of the term ‘serious’ started in 1987 by Abt, who referred to digital and non-digital games in various contexts as business, healthcare or marketing as ‘serous games’ (Schrader, 2023). SGs are considered a useful learning tool, but there has been no common consensus so far concerning the set of factors influencing the learning experience or the way to evaluate them (Fokides et al., 2019b). According to Faizan et al. (2019), there should be a pre-game, in-game, and post-game evaluation, whereas Ifenthaler, Eseryel and Ge (2012) suggest another three types of evaluation: game scoring, external assessment (e.g. surveys) and internal assessment (learner’s behavior) (Fokides et al., 2019b).

SGs have entertaining characteristics, but their purpose is to carry particular goals, experiences and outcomes (Shum et al., 2023). According to Djaouti, Alvarez & Jessel (2011), the “seriousness” of SGs is about the content which can be used as learning material by educators (Kaimara, Fokides, Plerou, et al., 2022). SGs offer a competitive setting through a story narrative with characters, and the users are challenged to follow the defined and structured goals of the game (Schrader, 2023). The sensory experience is rich due to the blending of text, audio, graphics, haptics and animations. Perhaps their most entertaining element is the interaction they provide the player with. The games are interactive in the sense that their stories evolve based on the players’ choices and behavior throughout the game. This means that the player’s input delineates the game’s output, in the form of auditory or visual feedback.

SGs are also used in the educational environments in order to provide an alternative method of assessment (Shum et al., 2023). Educators can assess students using a playful and less stressing method. For instance, the educator can check the way students interact and the decisions they made, in order to assess if their students have mastered the desired learning content, or whether they cannot construct their own knowledge based on their previous one. Therefore, SGs can be integrated in the classroom as a form of formative assessment, to ensure that students have conquered the new knowledge, or indicate that some learners need extra practice or explicit instructions on a particular topic.

SGs help learners to use their declarative knowledge and through repeated practice achieve procedural knowledge (Shum et al., 2023). This is realized by the element of scaffolding tasks within the game. Thereafter, the same game will interact with the players and provide

activities and game scenarios of varied difficulty. Eventually, the characteristic of scaffolding tasks provides the players with the ability to become independent and motivated learners.

Taking the above into consideration, it is vital that the learning objectives defined by the educator are aligned with the goals of the game. This leads to the need of adaptive games, so that the educator can choose the content of the game, in order to provide their students with a suitably meaningful and educational experience (Shum et al., 2023).

2.4.2. Educational design of Serious Games

Games should be designed based on psychometrics and learning theories in order to provide instructions, feedback and assessment (Kim et al., 2022). According to Fokides et al., (2019a), the factors that affect the learning experience while playing SGs are divided into four categories related to: (a) Content (subjective feedback quality, subjective quality of the learning material, subjective learning goals clarity, subjective narration quality), (b) Games' technical features (subjective ease of use/ usability/ playability/ SG realism/ audiovisual fidelity/ aesthetics), (c) Users' state of mind (immersion, enjoyment, competence), and (d) Learning enabling features (motivation, relevance to personal interests).

According to Schrader (2023), there is an interplay between the design features of the games and relevant aspects of learning. One important design element is the mode of play, meaning the effect of competition and collaboration. The games seem to be more effective, when the social interaction of the players increases. Collaboration in groups to participate in the game, has been proven to be a better design than single competitive versions of games. This happens mainly because solely competitive games are very likely to create social pressure and discourage participation. Additionally, the element of competition may vary according to the players. Some learners are passionate to reach a high position on leaderboards, while others may find it demotivating.

Another design element worth analysing is the learner control (Schrader, 2023). This element refers to the degree of interactivity the player is allowed to have with the game. For instance, the player may be given the choice to customize the avatar or manage the game tasks. Perhaps the most important aspect of this design is when the player is given the ability

to adjust the task difficulty, as this gives them more enjoyment and less frustration. A way to control the emotional state of the player, is to minimise negative feeling in games by adding a lot of practice time to secure high cognitive outcomes.

The aesthetic and narrative design refers to the universally aesthetic characteristics (visual and auditive design) linked to the player (Schrader, 2023). These designs have to do with the colours, shapes and music, sounds or narratives used in the game. The kind of aesthetic designs are intertwined with the level of motivation, enjoyment, memorisation and general learning. The way these designs are used, may distract the player and hinder the learning process. Thereafter, the aesthetic and narrative designs of a game have to be in a balance between the cognitive goals and the motivational elements.

Eventually, Schrader (2023) states that feedback and support are integral parts of a pedagogical game. Feedback is essential, given that learners have to be aware of the outcome of their activity in the game, so that they can evaluate their in-game strategies and actions. The feedback in a game can take the form of explanations, points, scores, on-screen messages, badges, hints, power-ups, prompts or feedback by an avatar. The frequency of support and feedback is also important, because if it is given regularly, it may interrupt the game flow and the player may lose interest or control. Therefore, feedback should be incorporated into the game in a way that boosts the player's motivation and cognitive skills.

According to Pitarch, (2018), an effective gamified experience is based on three elements: mechanics, dynamics and emotions (Figure 14). Dynamics concern the way the rules function during the game and how they make the player behave. Mechanics refer to the objectives, settings, interactions, boundaries, context in the game, which are used to foster engagement. Lastly, emotions have to do with the player's reactions caused by the game. According to Shum (2023), The game mechanics and dynamics have to be in alignment with the targeted learning objectives.



Figure 14. Processing Gamification (Pitarch, 2018)

Finally, the designated content of the game has to address the diversity of the players (Shum et al., 2023). This means that the games should have adapting scenarios to the players' characteristics. SGs have to incorporate a Learner-Centered Design, in order to offer knowledge based on the learner needs. Learners are the heart of education. They are the “who” of it (Kaimara, Fokides, Oikonomou, et al., 2022). Because the old-fashioned “one size fits all” design is no longer considered to be a teaching method (Kaimara, Deliyannis, Oikonomou, & Fokides, 2021), the researcher of this case study will focus on what features culturally- tailored SGs should entail in order to be context-aware.

2.4.3. The use of culturally-tailored serious games in second language acquisition

Digital games, which are designed for educational purposes, are used in language learning. The acquisition of a native language is closely connected to culture, through the communal environment and the family (Nikolova, 2022). In a similar way, when a learner acquires a second language, they are affected by its culture, since the teachers and the textbooks tend to specify the content for language learning to its cultural context. However, according to Ishaq et al. (2022), so far there has been no model for the design and development of a culturally tailored serious game for L2.

The most widely used language is English, which is considered to be an integral part of a person's survival in the economy of many countries worldwide. Thereafter, its acquisition

by migrants and refugees is of utmost importance, despite the host country they temporarily live in. Therefore, there is the need for the creation of SGs in L2 which will be adjusted to the linguistic needs and the cultural context of the user.

The cultural context of a game refers to the usability, content and assessment it includes, and it should be related to how users have been raised and what behaviors they have; that is, their values, language, customs, beliefs, ideas, norms (Nikolova, 2022).

As a result, it is necessary to design SGs for L2 acquisition in a cultural context, which will address the targeted linguistic elements, educational settings, method of assessment, content, usability guidelines and gamification elements (Ishaq et al., 2022).

2.4.4. The role of the modern educator

As far as the role of the educator is concerned, the change of the tutoring systems in the learning environments has led to the debunking of ‘sage of the stage’ to the rise of ‘guide on the side’ (Gros, 2006).

Educators have to be aware of their students’ profile, so that they choose suitable games for them (Shum et al., 2023). More specifically, SGs can be adaptive ones in order to be used effectively in the classroom. Therefore, teachers can facilitate their students’ engagement, metacognition and motivation by choosing the appropriate elements of the game. More precisely, these elements refer to the context (purpose and goals), the interfaces (aesthetics of the software), the tasks (what the player will be asked to do) and the tools (adaptable features to support the learner master the content) within the game.

Teaching in the era of Artificial Intelligence (AI), educators have to transform into mediators, who will facilitate their learners develop and grow through a more humanistic and culturally sensitive approach (Figure 15) (Brailas, 2023; Gentile et al., 2023). In essence, they are asked to shape people with the moral values needed in the modern era of plurality, and at the same time support them to acquire the technological and cognitive skills of the twenty-first century.

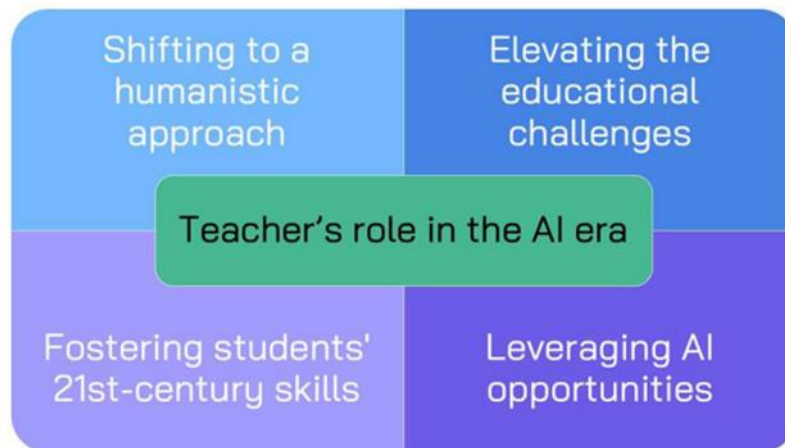


Figure 15. The new teacher's role in the AI era (Gentile et al., 2023)

The educator tries to guide the students in order to become independent learners. For example, students will be led to play a game and autonomously become collectors, aggregators, evaluators and adapters of their own knowledge (Figure 16) (Shum et al., 2023).

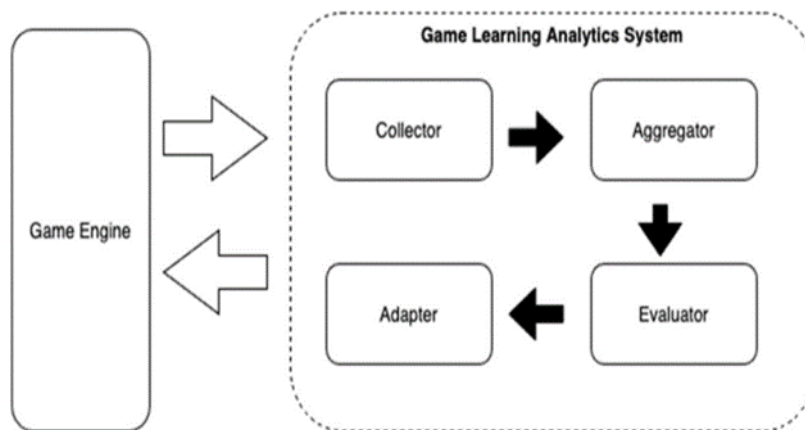


Figure 16. Game Learning Analytics (Shum et al., 2023)

Education is moving towards the pedagogy of Heutagogy. The name was given after the Greek word 'self'. The concept of Heutagogy is that learners take the leading role of the manager and control agent of their own learning (Shi & Blau, 2020). This kind of pedagogy brings the learner at the centre of the educational environment and enables them to design and adjust their own personalised educational contracts, including their assessment as well. Therefore, the educator is by their side to pose questions, provide resources, give extra

support to some students in the form of intervention, and help students manage their time and collaborate with each other (Shi & Blau, 2020). In a nutshell, the educator of the modern classroom has to be the guide who advises the learners in order to reach their personalized goals. This can happen through the acquisition of metacognitive skills, like time management, evaluation or study skills.

In terms of the modern need of multiculturalism and multiliteracy in the classroom, the educator has to ensure the application of inclusion and diversity. According to Palaiologou & Karanikola (2021), educators have to increase their “multicultural reflexivity” in order to achieve their own transition and transformation, concerning their understandings and misconceptions about multicultural diversity. It is the role of the instructor to construct an open and friendly environment, where learners will feel equal and valued. The educator has to maximize culture awareness and break the barriers to inclusion, so that the sense of belonging is experienced by all students (Shi & Blau, 2020). This is realized by the careful design of the course elements.

Conclusively, teachers have to provide students with experiences, through which the latter will become self-directed and self-determined learners in the multifaceted world. In effect, the role of the modern educator should be to prepare their pupils for success in life.

3. Research Methodology

3.1. Research Rationale

The research methodology employed in this thesis is grounded on an Action Research epistemological framework where the education practitioner is also a researcher. In this direction, research and practice are two interrelated and interdependent dimensions, both informing and enriching each other (Feldman et al., 2018). Being an English language teacher, the researcher has observed that the performance of the students, especially concerning their communicative fluency, who are used to playing computer games is much higher than the performance of the students who are not keen on online gaming. What is remarkable, is the fact that these learners assimilate linguistic structures of the English language, which they have not been taught explicitly by their teachers, and use them in their discourse flawlessly. This connection between the acquisition of a language and gaming has triggered the researcher's interest to investigate this relation. More precisely, the researcher wished to focus on the use of SGs in second language learning, as an instructional tool to assist learners cultivate their linguistic skills in English more effectively. Teaching in smart classrooms teachers can easily introduce interactive games through technology, and enhance their students' engagement and performance. The researcher opted to focus on the use of SGs as a potential space for L2 acquisition in the specific educational environment of multicultural classrooms. With that knowledge the researcher suggests that these SGs are culturally-tailored, so that they can be used as an innovative and fun means to raise cultural awareness and respect, thus creating a friendly and inclusive environment for students from every background. As a result, taking into consideration her own interest in teaching English effectively, and the very limited research on SGs in language learning, the researcher focused on further investigating into serious gaming usage in multicultural education as a L2 teaching tool.

3.2. Aims & Objectives

The primary aim of this research is to investigate whether and to what extent SGs could serve as an educational space for language acquisition in multicultural classrooms with refugee and migrant learners. More specifically, the purpose of this thesis is to focus on the potential use of culturally-tailored SGs as a multimodal instructional tool, which will

facilitate L2 acquisition and at the same time embrace all the cultural backgrounds of the learners in the classroom. Since the old-fashioned “one size fits all” design can no longer be applicable to multicultural classrooms, the researcher aims to contribute through her research to the development of appropriate teaching cultures and to inform educational policies on evidence-based practices that could help bridging the research gap of L2 acquisition in multicultural education. More precisely, the researcher hopes to find out which features and scenarios could contribute to successful SGs in multicultural classrooms, according to English language teachers.

Drawing from the above rationale, the researcher concluded to the following main objectives:

- To explore whether SGs could be an effective instructional tool to facilitate L2 acquisition in classrooms with migrant and refugee learners.
- To investigate what kind of design elements or scenarios SGs for L2 acquisition in multicultural classrooms should have, according to English language teachers
- To examine how SGs could be culturally-tailored in order to be utilized in multicultural classrooms.

Consequently, the emerging research questions to be explored are as follows:

- 1. What are teachers’ attitudes towards the use of SGs for refugee children’s integration in mainstream multicultural classrooms?
- 2. Which features should SGs entail for refugee children’s second language acquisition in multicultural classrooms?

3.3. Research Method

The qualitative research design was developed as the most suitable research model to address the purpose of this study. Qualitative research refers to the investigation of phenomena by surveying and gathering non-numerical data, with the aim to comprehend a concept or a specific group’s experience in order to approach a research problem (Creswell & Creswell, 2018). Qualitative research is a situated activity that puts special emphasis on the personal lived experience of the participants. For this reason, the researcher chose the

approach and the methodological framework of the qualitative research as the most suitable one, since the teachers as participants of the research will be meaning-making agents of their daily life in the classroom, thus leading to a situated understanding of whether SGs as a multimodal and multicultural ESL tool would provide an effective learning experience to their refugee and/or migrant students.

Following the previous methodological and epistemological considerations, this is a case study research. According to Creswell & Creswell (2018), education is a field which can be analyzed in depth through case studies. The researcher chose to investigate the research problem through a case study in Trikala, Greece, which will function as action research. This inductive kind of research methodology will be applied theoretically in the design of SGs that would help educators in their multicultural classrooms. More specifically, the educators collaborated with the researcher in order to cogenerate knowledge concerning the practical features and scenarios of the SGs, which teachers would ideally use in their classrooms. As a result, this systematic approach of research aims to assist educators become aware of SGs and focus on how they could practically make them an educational tool.

Drawing from the above, this research adheres to a constructivist and participatory epistemological and methodological framework. Constructivism in qualitative research means that the researcher explores the views about a phenomenon and focuses on comprehending it (Martí, 2022). Constructivism implies that reality, or at least our perception of reality, is socially constructed by the human participants, as well as the researcher (Brailas & Sotiropoulou, 2023). The researcher of this particular case study aims to understand the subjective views of the participants concerning the usage of SGs in multicultural education. Furthermore, a constructivist approach in research takes advantage of the interaction and discussions between the participants and the researcher (McCourt, 2022). Because of the active contribution of the participants to the research, which are treated as peer teachers with expertise able to contribute substantially to the understanding of the subject, the research entails a Participatory world view as well (Wright, 2021). More precisely, the educators will be interviewed with an appreciative set of questions aiming to help them realize and understand alternative teaching methods for the better, while they will

be encouraged to co-shape the direction of the research. As a result, the research serves as an action agenda to change the participant's life for the better.

3.4. Participants' profile

The sample of the research was ten educators of the English language in public schools in Trikala, Greece. These educators teach in classrooms which currently include or have included refugee or/and migrant children. The variety of the student population in Trikala usually features Albanian, Pakistani, Ukrainian, Iranian or Roma learners. The teachers' experience varies a lot. Some of them have just started teaching, whereas some other have seen remarkable changes in education, since they are close to retirement. The educators' gender and school rank are presented in Table 1. Both research questions were answered by data collected through an individual interview with each educator.

	30-40 years old		40-50 years old		over 50 years old	
	Primary school	Secondary school	Primary school	Secondary school	Primary school	Secondary School
Female	3	3	1	1	-	1
Male	1	-	-	-	-	-

Table 1. Participants' age group and school rank

3.5. Research Tools

For the collection of the qualitative data in this case study, a semi-structured interview was considered to be the most suitable research tool, so that the participants could be free to express themselves, and even shape the route of the interview.

After a brainstorming session with the supervisor, the researcher created an interviewing agenda, as shown in Appendix A. The researcher posed questions in order to select data to approach the two research questions. Before the interview started, the researcher assured the

participants that the research followed all academic research ethics according to the Hellenic Open University standards. The interview was anonymous and voluntary, and the participants could withdraw whenever they wished. It was explained that the content of the interviews, as audio files or transcribed, would be used only for the purposes of this research. The interviews lasted on average 25 minutes and included the arts-based method of drawing. Before the interview, a short video was sent to the participants (https://drive.google.com/file/d/1sX6Cp2mUCldOiAmwSYTLaSUFn4QMKilx/view?usp=drive_link) (Figure 17). They were informed that the interview would be about SGs in education and they were encouraged to watch this video in advance. This video was created by the researcher in an attempt to explain in short why SGs are currently used in education and in which domain they have already been introduced. The video also included the presentation of an actual serious game in education, SIM CITY edu, which tries to cultivate the skills of problem solving, critical thinking and time management. In this way, the video acted as a primer, and as an orientation tool for the participants ahead of the actual event of the interview.

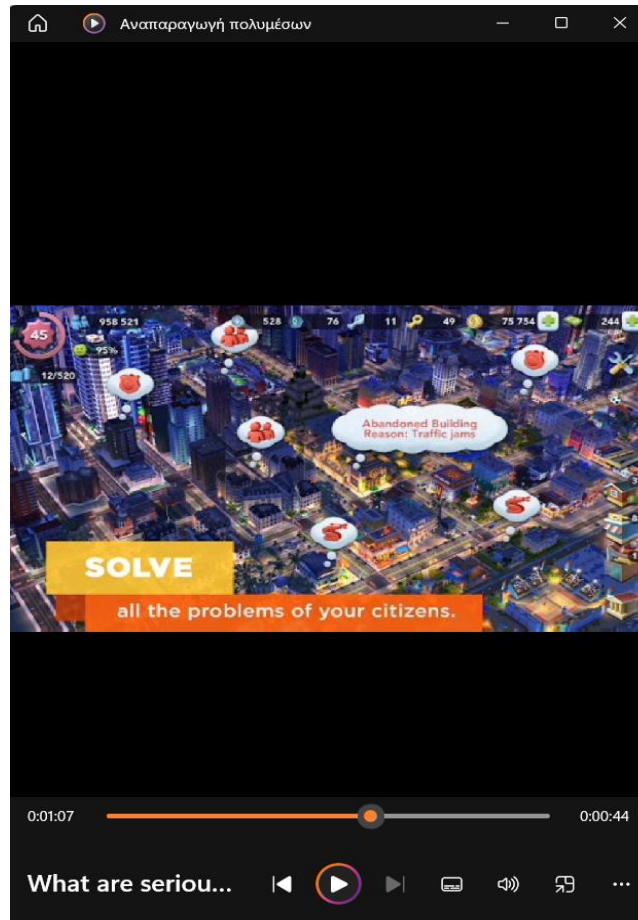


Figure 17. Before-interview short video about serious games

For the introduction of the drawing in the interview the researcher chose the “post-interview approach” (Brailas, 2020). The participant-produced drawings are incorporated into the flow of the interview according to the following structure (Figure 18). Firstly, the researcher and the participant conduct a verbal qualitative interview with open-ended questions. Then, the researcher gives the participant a white paper for their drawing. After, the participant finishes, the researcher encourages a mini verbal follow-up interview on the drawing, so that they analyze further the topic being researched. Drawing offers a multimodal perspective in the interview, and gives the researcher an alternative method to investigate the research problem, reaching data that would otherwise remain silent via the verbal interview (Vakali & Brailas, 2018).

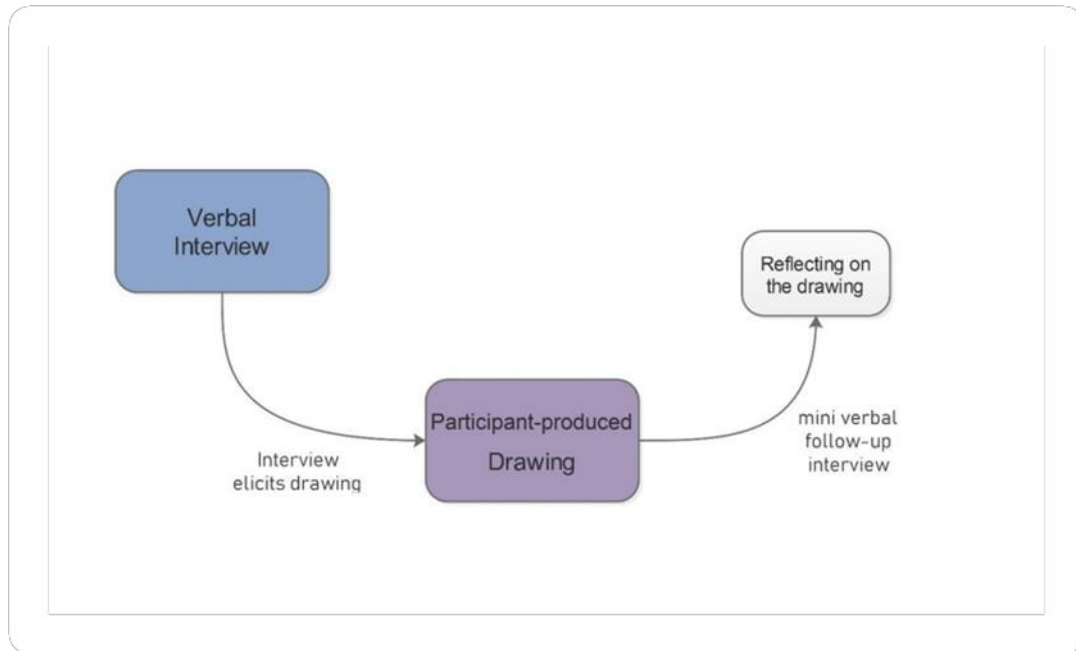


Figure 18. The post-interview approach (Brailas, 2020).

3.6. Data Analysis

Thematic analysis is considered to be a foundational method for qualitative data analysis, and is recommended to researchers that lack experience in qualitative research (Braun & Clarke, 2006). This method consists a more convenient and comprehensible tool for novice researchers in qualitative analysis, since it remains simple and does not necessitate technological knowledge of approaches. Based on the Thematic analysis, the transcribed interviews has been analysed in themes, which show patterns of meaning among the participants (Braun & Clarke, 2006). For the representation of the raw empirical data, the researcher used the open-source software tool QualCoder, which helps the researchers to organise the emerging themes in their data, as suggested by Brailas et al. (2023). The researcher chose the inductive approach for the coding process, according to which the researcher creates codes based on the patterned meanings found in their data (Willig, 2013).

4. Results and discussions: Exploring the potential of culturally tailored serious games in L2

4.1. Educational reality in multicultural classrooms through educators' lenses

The participants stated an experience span ranging from 1 year to more than 30 years of teaching the subject of the English language in public schools. All of them had at least a student in their classrooms with migrant or refugee background. During their years of experience, the participants mentioned teaching students from Albania, Ukraine, Iraq and Syria, as well as Roma students.

Following the curriculum requirements, some participants during their teaching praxis added extra material to differentiate their lesson or make it more interesting. Others admitted that adding extra materials is very limited, while others seem to only take the core elements of the national curriculum and mainly prepare their own lessons.

Multicultural classrooms in the secondary schools of Trikala in the lesson of the English language do not seem to be a great linguistic challenge for the educators interviewed. One participant being close to retirement with a lot of years in education, states that students have a lot of exposure to the English language nowadays and they do not struggle to use or understand the language, as it used to happen years ago. She also mentioned that the students who migrated at a younger age had the time to adjust during the school years of the primary school, and having acquired some basic Greek are ready to attend and comprehend the lesson of the English language in the secondary school. Given though that students are asked to use the English language to communicate or complete tasks, it is not so difficult for them. Concerning the use of games in the lesson, the participant stated that once she created a quiz in Kahoot! including simple words of the languages all students may use, such as saying 'good morning'. Finally, according to the participant, English is the lesson that all her students attend and stay engaged.

Another participant teaching in the same level of education mentioned that her classrooms included children, but also adults from other countries trying to finish secondary education.

She stressed that these students gave her the opportunity to see how different languages can go hand in hand with a common goal, that is learning a second foreign language besides the mother tongue. According to her, this creates a great interest in the linguistic variety educators can have available in the classroom, along with the very different educational stimuli these students have received so far in their lives. Educators should assist their students move from their mother tongues to the target language, by allowing them to use their languages during this process. When some students have shared languages, it helps them to use these languages in order to collaborate and explain what they have understood to each other. According to the participant, it is very interesting to ask students about their languages and see about commonalities and differences among languages, thus including the cultural part. This also creates a relationship of linguistic interest among students and brings them closer even outside the classroom. As for games during the lesson, this participant mentioned the use of Kahoot!, which is enjoyed by all ages and helps students due to the interactivity, the competitiveness and the individuality it offers.

Another participant with limited teaching experience in the secondary school level mentioned that children from other countries have a differentiated level of difficulty in learning second languages, even if their background is the same. She tries to make them feel comfortable and with the other kids in the class, so they do not feel inferior. Therefore, apart from following the national curriculum, she introduces games with various activities and videos, in order to bring her students closer. She underlined that audiovisual material is very helpful for every child to learn more effectively and comprehend the content of the lesson. On these grounds, another participant mentioned that he brings objects in the classroom to teach vocabulary, or makes students do role play and perform some plays.

Giving time to work autonomously is the main practice of another EFL teacher in secondary schools. When she poses questions or assigns tasks to be completed during the lesson, she gives students 10 minutes to search for the question in any language they want and prepare an answer in English. They are encouraged to use their mobile phones in the language they feel comfortable with and find the answers requested; or she may give them time to check a text, before they read it all together in the classroom. She also mentions that when she forms groups, she puts in the same group students of different levels, so that they help each other. She says that students who are good in English, may not have so many ideas as others. So,

everyone has to give something to the team. As for technology, she uses YouTube videos and online quizzes as tools to enhance collaboration, to assess students or revise modules through fun activities. Students are urged to create quizzes on their own and prepare their own questions. However, as for the cultural content, she stresses that she prefers to add in her lesson only the cultural content of the language she teaches, rather anything concerning the culture of her students.

Primary school multicultural classrooms seem to be more challenging for the acquisition of the Greek language. As far as English is concerned, participants mentioned that all students regardless of their background try to achieve the same goals, and they may have a similar level of competence. Most participants mentioned that they needed to enrich their lessons and apart from the books, they would bring board games or they would use videos and quizzes.

One participant mentioned that the school she was working had no appropriate technology infrastructure, whereas another one stated that they even had tablets for the students. The later stressed that her lessons are planned according to game based learning through sites, like Kahoot!, Quizlet, Quiziz, and Baamboozle. As participants said, making learning entertaining is pretty important in order for children to remain interested and engaged in the lesson. One participant said that playing also is a way to hide inequalities. In the games children come closer and collaborate in order to win at any cost. Consequently, the formation of the team is a good opportunity for the educator to bond the class.

4.2. Specific elements in the serious games required by educators

After the interaction with the educators in the interviews, it has been obvious that they mentioned some common elements, they would require in a serious game, in order to use it in their classrooms.

Some participants referred to the need of adjustability in the level of difficulty. Classrooms consist of students of different linguistic levels and with different capabilities. Therefore, educators would ideally ask for a serious game which would help them provide differentiated tasks to their students, based on their learning profile. This is associated with

what Shum et al. (2023) have said, that educators have to be aware of their students' profile, so that they choose suitable games for them.

Additionally, the participants expressed the need to be able, like programmers, to make changes to the game, based on the module they want to teach or the learning objectives they have set. This lines up with what Shum (2023) has mentioned, that the elements of the game have to be in alignment with the targeted learning objectives. In this way, the participants stressed that the game could address the diversity of the players. One educator specifically suggested that the serious game should have a specific content and difficulty for each level of the English language. There should be one or more games for every level. It should have a beginning, a middle and an end as a book. As books have modules, the games should have stages, following the international language levels ranging from A1 until C2.

As far as the content of the games is concerned, an educator highlighted that since SGs will be culturally-tailored, they should be carefully designed and introduced, so that they respect all the cultures and mentalities in the classroom. Personal issues like parental behavior, religion, customs and traditions are very sensitive and should be included in the game, after showing great consideration for the way they will be presented in it. As Nikolova (2022) has stressed, the cultural context of a game should refer to how users have been raised and what behaviors they have.

According to the participants, not only educators, but also students should be able to make changes in the game. For instance, students could also decide and design their characters or avatars in the game, choose the level of difficulty they are willing to play at, or choose the aesthetic characteristics of the game. When players customize their avatars, they create personas with their own personality traits and appearance to adjust to the virtual environment of the games they play. Yet, according to Sheth and Solomon (2014), players may even create avatars that are completely different from who they are in order to serve the purposes of the game (Fokides, 2021). According to the participants, it is vital that students decide for their own education. This is exactly what Schrader (2023) analyzed as the learner control, referring to the degree of interactivity the player is allowed to have with the game.

Another useful element, requested by the educators, is that the game should not be played only individually but in teams, as well. Therefore, based on the needs of the students and

the learning objectives, the individual or the team mode can be chosen by the players. For this reason, it is necessary for the SGs to have chat boxes, where the players can talk with each other and cooperate. According to Schrader (2023), games seem to be more effective, when the social interaction of the players increases.

The game should also give the teachers the ability to supervise everything in the game. They should be allowed access to the chats, view the actual play and know what kind of feedback their students receive or how they react linguistically or behaviorally. Given that teachers are the supervisors of the game, like a big brother watching everything, they should be able to participate in the game, too, if they want. In this way, they could provide students with extra feedback in the game, help them where needed or create challenges for them. Indeed, playing with the students will create closer bonds between them. This is what Gros (2006) has mentioned about the modern learning environments, which transform the educator from the ‘sage of the stage’ to the ‘guide on the side’.

As for the feedback, it must be given in an indirect and smooth way through the game, without disrupting the flow of the player or making the game too boring. According to the educators, the game should offer explicit instructions and rules of Grammar, Syntax and Vocabulary in help boxes that will emerge in the screen when necessary. This resonates with what Kim et al. (2022) have stated, what games should be designed based on psychometrics and learning theories in order to provide instructions, feedback and assessment.

4.3. Educators’ envisioned serious games in L2

During the interview the participants were asked if they had understood or already knew what SGs are, and afterwards they were urged to think of a serious game that would help them in their classrooms. As a thought experiment, they were encouraged to imagine that they can ask a programmer to create whichever serious game they wanted, incorporating any features they desired for their educational goals. As follows, the researcher will present what SGs the participants have envisaged to use in their classrooms.

The first scenario was about the creation of festivals. Each team entering the game would choose whether they would organize a festival for their own country or another country. In this way, the students would feel free to feed their curiosity and explore places around the

world, and then come back in the meeting point with the other teams and present what they have discovered about various cultures and countries in the world. Every time the festival could be about something else. According to the participant, the festivals could have a concept like the cuisine of a country or the traditional clothes. The players could travel in the game, talk with others about a specific culture, cook the traditional dishes and then return to the starting point of the game, find the other teams and organize a festival themselves about the culture they have encountered. The participant also added that the players could edit and transform their characters in the festivals. For example, if a team explored the Greek culture, they could edit their characters as “Tsoliades”, Greek soldiers wearing a distinctive uniform with its white kilt-like skirt.

Another participant imagined a serious game, which would allow students to travel around the world with the help of virtual reality. She stressed that it is important to provide students with experiences, which are as close to reality as possible. Therefore, a serious game offering educational content through virtual reality would be a useful addition to their teaching tools. According to the participant each student should have their own character in the game, which could travel to other cities or countries, where they would try to find information about these places and their cultures. The way students should find this information and what exactly they would search for should be in consultation with their teacher. According to the participant, the educators should take into consideration their students interests and ask them what they would like to learn about the other culture and adjust the game in this direction. So, the serious game should be configurable in order for educators to provide a personalised experience to their students according to their hobbies or interests. Actually, the participant suggested that if students are able to create the design, the elements, the characters and the concept of the game, they would be more motivated and challenged to play their own game. Conclusively, although asking students to decide and take responsibility for their own education may sound to be very innovative, it should be the reality in modern educational systems.

A further suggestion for a serious game in L2 was proposed by a participant, who raised the possibility of a game that would transfer students to museums around the world. More precisely, the participant elaborated on a particular concept to give an example. She would create groups of students and she would assign the task to find three different works of art.

Based on the background of the students in the classroom, the teacher could give them specific works of art in purpose, so that the students travel to those countries and receive stimuli from those particular cultures. Inside the game students would have to interact and communicate their thoughts and information to each other. The students would be encouraged to use English, but their mother tongues as well. The participant gave a clearcut example; if some students were from France, she would assign them the task to find information about Mona Liza. Consequently, they would have to find out where this work of art is, travel to France with the help of virtual reality, visit the Louvre Museum, and talk to the tour guides to get the information they want. The difficulty and complexity of the tasks would be according to the students' linguistic level. For instance, at a low level they students would have to observe the painting and notice the colors of it, find the name of the artist, or the country of origin.

Another concept of a serious game in multicultural classrooms was suggested by a participant, who focused on the students' future place of residence. According to her, everyday life is a very important aspect of students' future, and the school should help them choose what is best or more suitable for them. The proposed serious game would allow students to travel to any country they want and see the everyday life of their peers, or the age group they chose in that particular country. The players would theoretically be able to see what is legal or illegal in that country, what educational or job opportunities they have, if there are any other people of their culture there, if they like the culture of a specific country and so on. Therefore, the game should be constantly updated based on the real circumstances in every country. According to the participant, most immigrant and refugee students do not want to stay in Greece, and try to find ways to reside other countries. As a result, such a serious game could be assistant to their decision and efforts.

Another participant proposed a serious game which would provide the student with an assistant. This assistant would be the student's friend in the game, helping them with the language and guiding them to complete the tasks assigned by the teacher. In other words, this friend would essentially be an assistant, like parallel support teachers. This assistant could be designed by the student, and should know all the languages the student knows plus the target language to be learnt, that is English. It would be nice for kids to be able to choose the personality traits that this assistant will express in the game. For example, if the children

remain engaged with certain encouraging phrases, or if they want their helper to have a sense of humor, or be serious and strict, it should be up to the child to choose what kind of character the helper will present in the game. The teacher would choose what the students would play, like the participation in a quiz show, where the assistant would indicate which site to go to look for information. Another example mentioned by the participant was that, the teacher could assign students to write a report on climate change, and before that the students could connect to the game and with the help of virtual reality and travel with the assistant to different places, like the north pole and see the melting ice and talk about it. Or even something more far-fetched, in the context of a creative and more relaxed lesson, where the student could enter the game and the assistant would ask "What do you want us to do today?". They could visit labs with scientists for experiments, travel to other planets, participate in group psychotherapy sessions, do extreme sports, travel back in time to historical events. All these with the assistant insisting on communication in the English language, pointing out rules and the correct use of the language. At the end the students would exit the game and talk to their classmates about their experience. Essentially the game should be a source of real-world information only; not imaginary planets or countries. And of course, within all these sets of games the assistant should be programmed to give hints of linguistic content, as if the student is traveling with an English friend, who knows his mother tongue, but is trying to teach him English.

Visiting the open markets around the world was the idea for a serious game by another participant. She mentioned the need for the educator to have various versions of SGs in the classroom, according to the module of the book they want to teach their students. If, for example, the module was about fruits and vegetables, the players should travel to open markets around the world and ask the locals how they call various products at the open market. Students could try and communicate with strangers, interact with the other culture based on this fundamental cultural element of a country, its goods and cuisine. According to the participant, the players could interact with people at the open market, who are very different from them, such as a lady wearing a burka, and get more cultural information through their conversations. By interacting with the locals, students can learn about the mentality of people in other cultures too, but also interact linguistically and teach each other words from their own language. They could ask them about local recipes, make friends and organize festivals with the other teams of students to present what they have learnt.

Based on the assistance of the virtual reality, another participant suggested that the serious game should be like a source of information. The teacher should be able to give their students a specific task and send them to particular countries around the world, where they would have to interact with the locals or visit places to get the information they need for their task. After collecting the information, the students would interact in the real classroom and present their information or the photos they have taken in their journeys.

Another participant suggested that SGs should be used as a tool to give students the images they do not get in their real life, and after that start conversations about serious matters that cannot be easily discussed effectively in the classroom. According to the participant, a serious game could help the educators simplify complex and sensitive concepts for their students. These concepts could be social issues like poverty and criminality, abstract ideas like depression and respect, or even more personal issues like role models in life and the freedom to religion. Students could take various roles in the game, like that of a mother, or a child, a policeman, or poor person or a person with health issues, and live their lives in the game in various concepts, trying to do numerous tasks assigned by the teacher. After completing their tasks, students should discuss in the classroom their experiences, their ideas of how people should behave or act, how the world should be, what some concepts denote, how some common human issues should be approached. Of course, according to the participant, the way these ideas and tasks are designed and introduced into the serious game should respect the mentality and culture of all students in the classroom.

Conclusively, what seems to be a common idea in these SGs is that students need to travel in order to see other cultures through their direct personal experience, and not through narratives or pictures. Educators ask for a more powerful and realistic tool to assist their students feel the reality in other countries and interact with it. In this way, it will be easier for them to realize that the students with a different background next to them are not something strange or an exception to the rule, but on the contrary, they represent a group of other people around the world with the same culture and mentality. Additionally, these imaginary scenarios of SGs in L2 have another common aspect; whatever students, individually or as teams, do in the game, they return to a starting point or in the real classroom and interact with their classmates. Therefore, there is the need to use technology

as a tool for a specific cause, but real-life interaction should be encouraged to build real and strong relationships of respect and acceptance among the students.

4.4. The ideal multicultural classroom through educators' drawings

In the last part of the interview the participants were asked to imagine and visualize the ideal multicultural classroom. The educators were given time to think of the ideal multicultural classroom and were urged to think outside the box of what can be realized in the Greek school. When the educators were ready the researcher gave them a piece of paper and the participants were asked to draw their ideal classroom. The drawings and what they illustrate is presented as follows.

The first drawing was made by a female participant in her 50s, teaching in secondary schools. Her experience in multicultural education was ample but her contact with technology was limited. As shown in Figure 19, she drew a round table, which depicts the earth. The surface of the table is like a world map. Around the one semicircle there are the students, whereas the teacher is opposite them. The participant explained that with this positioning the students have the same distance from the teacher and the world, thus feeling equal. Perhaps this could dissemble the fact that the participant perceives the educator to be the source of knowledge. Yet, everyone has a tablet in front of them, which opens a “Window to the world”, as the drawing is entitled. The idea of the window to the world was analyzed based on the fact that the educators, and the school as a whole, should prepare the students for the future. So, the participant stressed the fact that students should be prepared for a world which can host all the people regardless of their background.



Figure 19. A window to the world: The students use tablets instead of books and have an equal distance from their teacher, who is opposite to them. Their desk is round and the globe is depicted on its surface.

The male participant having drawn what is presented in Figure 20 is in his 30s and teaches in primary education. The participant envisages a classroom outside a building, in the countryside. There is a compound of nature and technology. The students are sitting under a tree, and the teacher on a swing hanging from the tree. The participant emphasized that the role of the teacher should be to observe and play with the students. In the drawing there learning is realized in a playful way. There are some real games around the students and also there is the projector, as a source of information which they cannot find around them. The participant highlighted that students have to be constantly in touch with nature, and learn how to respect it and the animals around them. The participant chose to draw a giraffe, as an allegory. He explained that the giraffe is an exotic and rare animal, which students do not encounter easily in their lives. So, students have to get accustomed to strange for them creatures, and not only pets and farm animals. Accordingly, students have to get accustomed to people that they do not usually interact with in their communities, and learn how to live

with them. Therefore, the giraffe in this habitat is a juxtaposition with a migrant or refugee student in a classroom. Worth mentioning is that there is a small fence in the background, which the participant chose not to draw on the whole paper. He supported that the classroom is a place, where students should feel safe, but at the same time it should not be a prison in order for them to feel free. Lastly, the participant entitled the drawing ‘S-quality’, which comes from the words ‘school’ and ‘equality’, showing that a multicultural school should promote and move towards an equality of all people.

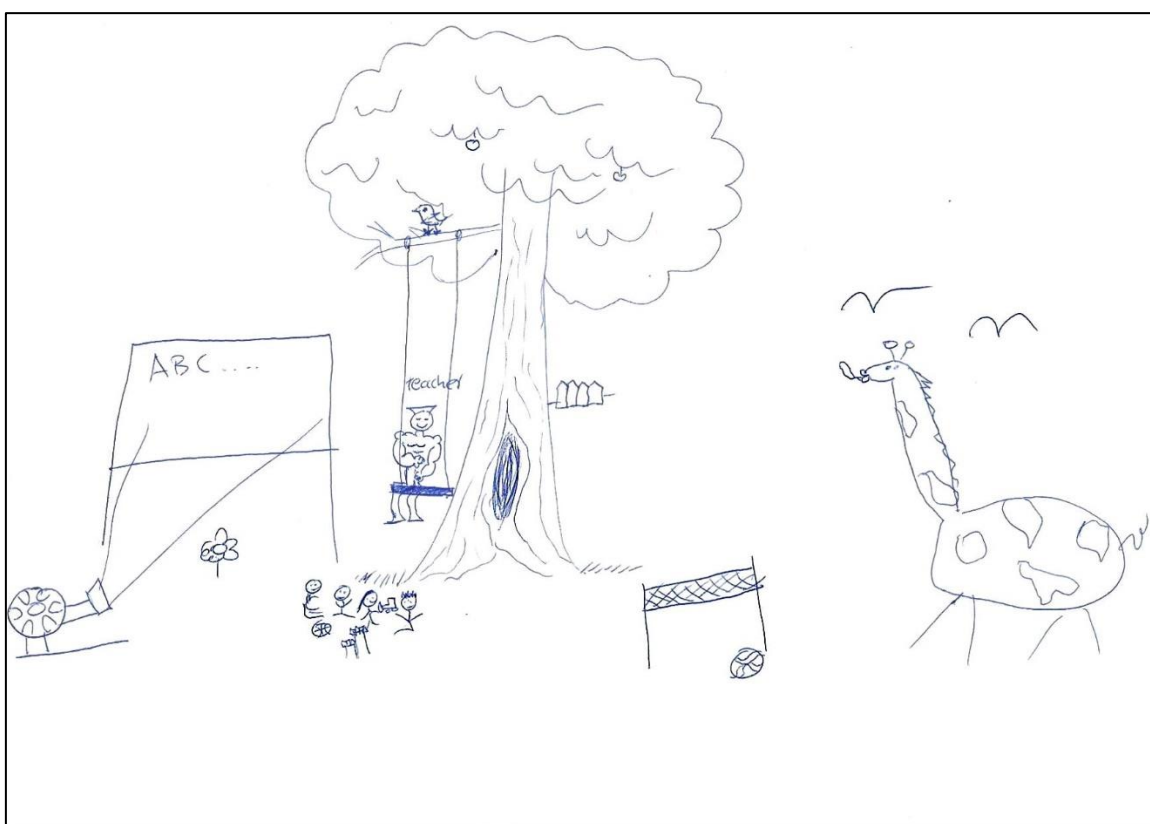


Figure 20. S-quality: The classroom is in the nature. The students play all together and the teacher observes them, while sitting on a swing. There is a projector and a whiteboard, along with animals and a tree. The fence in the background is not completed on purpose.

The drawing in Figure 21 was made by a female participant in her 40s, teaching in primary schools. The drawing was entitled “A school for everyone”. The participant drew children outside in the countryside, and mentioned that her aim was to illustrate that an ideal classroom has no walls. Therefore, an ideal classroom should be outside close to the stimuli that nature offers. There is a lake, mountains, a sun, trees and flowers all around. The teacher

in the drawing is close to the students and her role is to support and guide them. A student is sitting on a bouncing ball, whereas others play with tablets. According to the participant, desks and chairs do not help children learn, since it is not in their nature to sit and listen. On the contrary, they should run and explore the world. The participant refers to a forest school which will combine technology, proposing a turn to collectivism.



Figure 21. A school for everyone: The classroom is outside in the nature. The educator is next to the students. Some of them are holding tablets.

The following drawing in Figure 22 is entitled “Travel around”. It was created by a female participant in her 40s currently teaching in secondary schools. In the middle there is a round carpet and on it every child has their own carpets to sit on. Their individual carpets have the flag of a different country. These little carpets are round, too. The participant commented that the shape of the circle symbolizes life itself, given that planets are round and spin around

the sun, which is round, too. According to the participant, there should be no book, but tablets instead. Yet, if students ask for notebooks or books, educators should provide them. Sitting in this way students have equal distance among each other and can also collaborate. The participant has also drawn a round whiteboard, which they can use to write. She has written “Hope! Love! Happiness!” on it. The drawing shows that the students are outside. However, there is a wall and the windows show that inside the building there is nature, as well. The participant commented that nowadays classrooms are perceived to be the student’s prisons. Therefore, she wanted to show that a classroom can be any place, which protects the students from weather and provides them with knowledge. She highlighted that students nowadays need to come in contact with their own selves first, and after having developed the sense of empathy, they can come closer to others. Apart from the languages, educators should focus on their students’ memory, stimuli and communication. She mentions that communication is the basis of communities and relationships. Educators should promote communication and encourage students use all the languages they know. What is also worth mentioning is the fact that there are two teachers in the classroom. According to the participant, the minorities in the classroom have the right to have a teacher sharing the same background, co-teaching with the main teacher. Finally, every student in the drawing has a footprint on them, showing the importance of identity and diversity.



Figure 22. Travel around: The students sit on a round carpet. Every seat depicts the flag of a country and has a footprint on it. Elements of nature are inside and outside the classroom's walls. There are two educators and a whiteboard with a message.

The following drawing in Figure 23 entitled “All equal – all together” was made by a female participant in her 30s, who has the limited experience of 5 years in secondary education. According to the participant nature is something that unites all people, since it has nothing to do with where you come from. All people have the need to be around nature. Therefore, a classroom being able to transfer itself outside the building in the countryside would be the ideal setting. The flowers and trees around the students are planted and watered by the students themselves. This way they learn how to cooperate and care for the environment, their commonly shared home. There is also a pond and a path in the forest for the students to explore nature and do activities. Experiential learning seems to be the main idea behind particular sketches. In the drawing there is also a building, which according to the educator is needed as a place where technology is. Nonetheless, when the weather allows it, the students

should be outside. So, there should be a combination of technology and nature in order for students to get the necessary stimuli to grow and develop.



Figure 23. All equal – all together: There is a school but the students learn outside in the nature. There is a pond and a forest close by.

In figure 24 there is a drawing with the title “Experience”. The participant is a woman in her 30s with only one year of experience in education, teaching in a secondary school. The drawing has no people or element of human activity. It is actually a landscape with trees, flowers, a waterfall and the sun. According to the participant the flowers symbolize the students who are equal among each other, as it happens with the flowers in nature. The students, the participant continuous, should every time have another role play and experience another scenario, as it will be in their real lives. The students should have a specific task in every lesson, like the flowers-students are standing among the trees observing them in the drawing. The participant underlines the importance of psychology, and supports that their psychology is much more important than anything else they have to learn at school about their survival, such as a language or the content of another lesson. She explains that the students should feel intimacy, happiness and safety among the other

students and educators, like the flowers which harmoniously belong to their environment in the forest. Consequently, according to the participant, the psychological state of the students should be a priority in schools, and as a result their inner well-being will positively influence their academic performance. The title “Experience” was given due to the fact that lesson should not be neutral. Educators should not be afraid to “color” the content and goals of their lesson and influence their students. The educators’ goal should be to encourage their students’ multifaceted self-development. Lastly, the participant stressed the fact that experiences form people’s personalities. Conclusively, positive and formative experiences are what school should give their students, as a supply for their future lives.

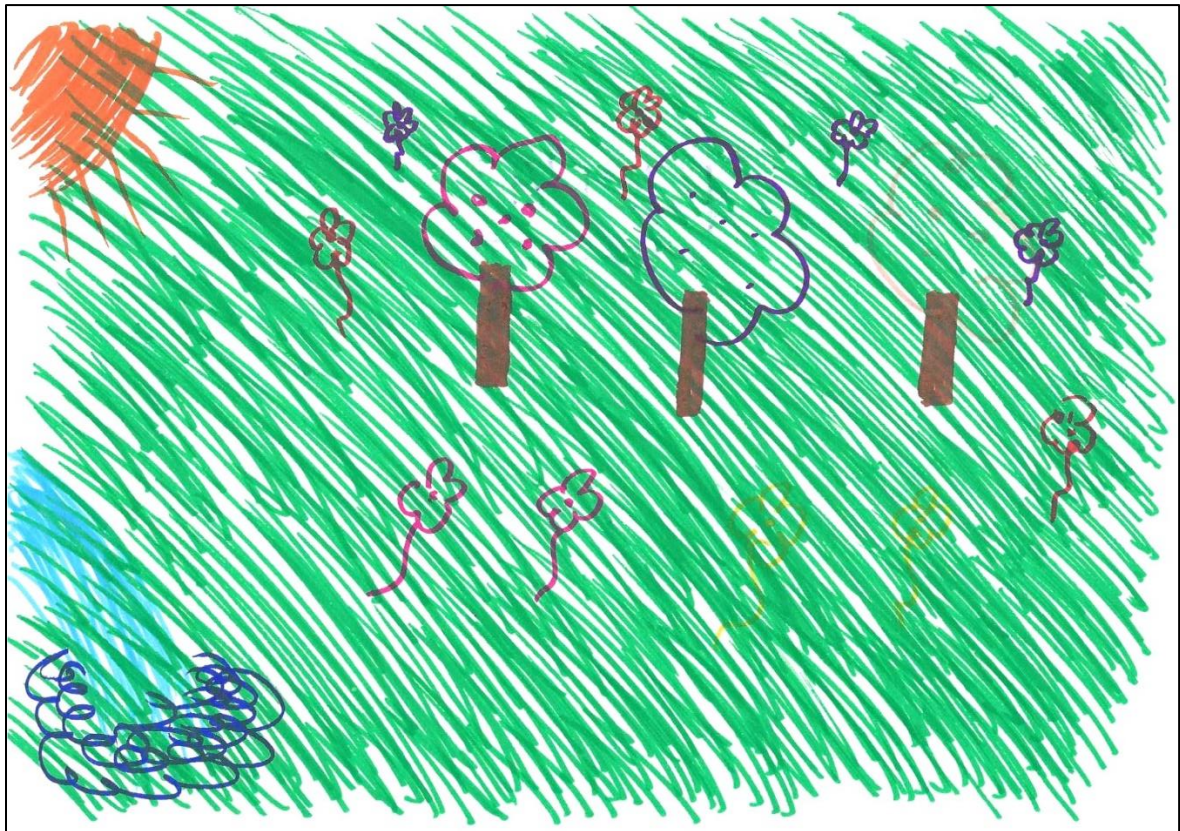


Figure 24. Experience: The participant drew a parallel between the flowers and the students.

“The hug” is the title of the next drawing, as shown in Figure 25. The participant is a woman in her 30s teaching in primary schools. In the picture there is a teddy, children, hearts, stars and a globe, all creating a sense of early childhood. Yet, when watching the drawing the first thing catching the eye is the teddy bear, which is big and covers the biggest part of the

paper. According to the participant, the teddy bear is the concept of school and diversity. It hosts cultures and the ideal of acceptance. The teddy bear symbolizes hugs, love and affection. In a safe place, like school, the child must feel the acceptance of diversity. The teddy is something that every child has, no matter what they look like or where they come from. Therefore, it can also be considered a symbol of unity and acceptance. “This is how we want children to see school”, commented the participant. In this way students should embrace and love their school, classmates, and learning. Consequently, the participant draws attention to the fact that school be a peaceful weapon against racism.



Figure 25. The hug: There is a teddy bear bigger than the children. Hearts and stars are drawn in various positions on the paper. In the upper right corner there is a globe.

The following drawing on Figure 26 is entitled “Feeling good”. This is the main idea of the participant who drew it. She is a female educator at her 40s teaching in secondary schools. Taking a closer look at the drawing, it is obvious that the students are motivated and willing to participate, since all of them are smiling and they are rising their hands. Additionally, the

students think over the knowledge they are receiving and for this reason they are posing questions to the teacher. The teacher on the background had the role of the observer and supporter, who listens to the students and provides stimuli and guidance. The participant also drew a pair of students holding hands, and she explained that this symbolizes the collaboration between them. She stressed that students should feel comfortable inside the classroom, and that the educator is the person who should establish such a friendly environment for them. To illustrate the role of the educator, the participant drew a big ear that listens to the students' voices. According to the participant students have to feel good first in the classroom, and then knowledge will come, too. Thereafter, she underlines that psychology comes first, and knowledge follows in importance.

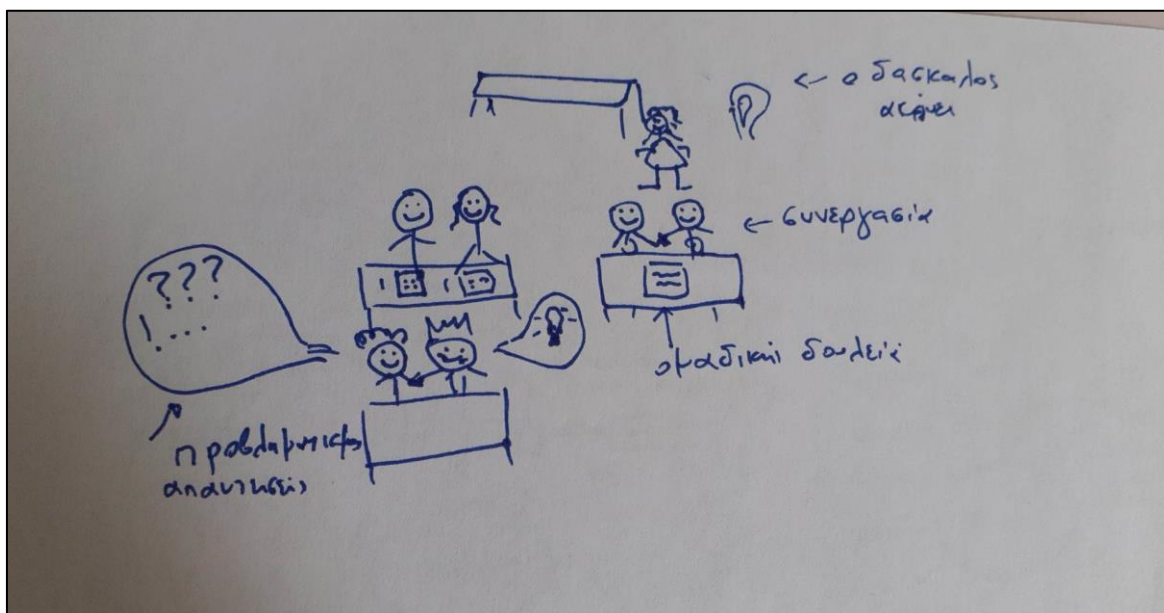


Figure 26. Feeling good: The students sit in pairs. There is a big ear next to the teacher, so show that they should be good listeners. The students cooperate and pose questions.

The participant having drawn the following drawing in Figure 27 is a woman in her 40s, teaching in the primary school. The title of the drawing is "A classroom in the countryside". In the middle of the drawing there is a tree. All around there are children playing with flowers and with animals. According to the participant, each child has different interests and this is something very essential, that educators should take into consideration when teaching. Let's say a child is very involved in botany and learns from there. If you let this child in a

forest with over students, they will discover new plants for them. So, the teacher could encourage them to search for their English terms. The children tend to share their knowledge with the others. As a result, if the lessons are planned in a way that includes their interests, the children will talk about them and will participate willingly. Therefore, the participant points out the importance of incorporating the students interests and preferences into the content of the lesson being taught, in order to keep them engaged. Essentially, she stresses the need for a student-centered education. In the drawing there is also the element of technology. Some children are holding tablets. The participant comments that students could use tablets to play personalized SGs, according to their needs and interests.

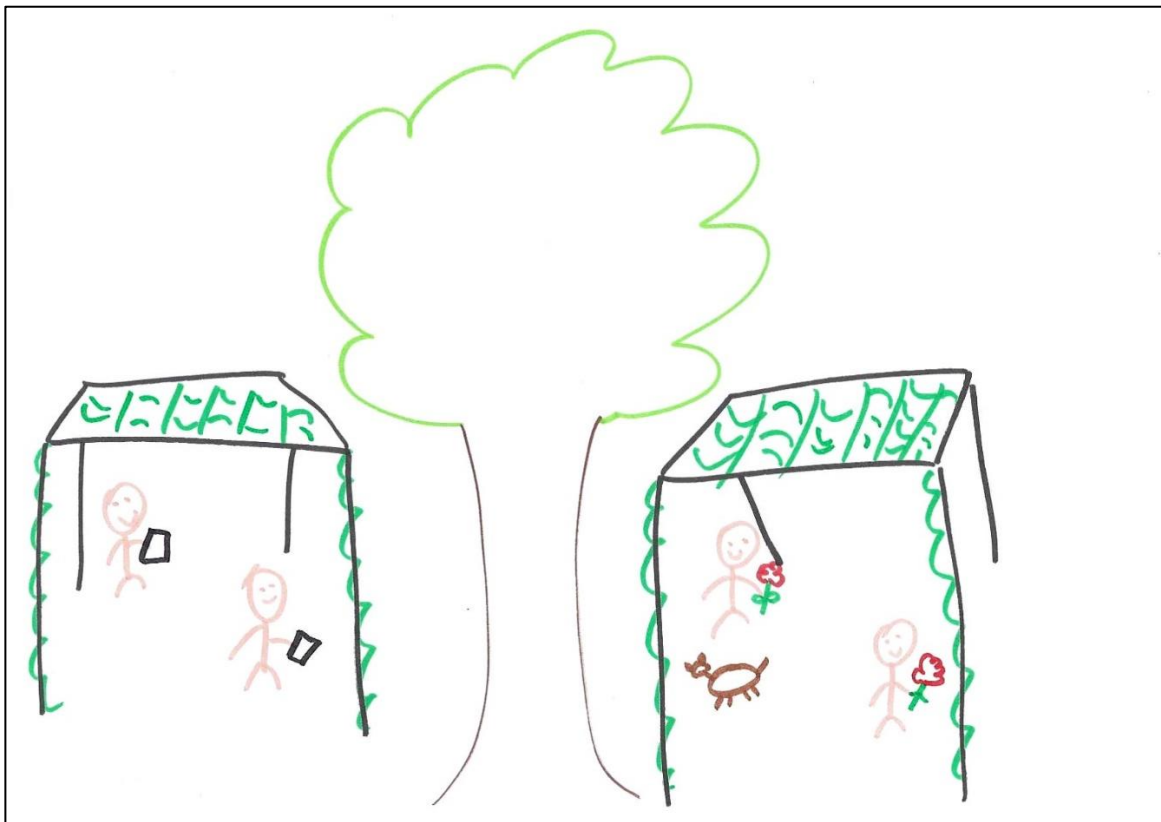


Figure 27. A classroom in the countryside: There is a tree and two shelters. Under the left shelter there are students playing with tablets, whereas under the right one they are playing with a cat and are holding flowers.

The last drawing in Figure 28 is entitled “A school without borders”. It was created by a female participant at her 30s, who teaches in a primary school. In the drawing there is a classroom, which is the first thing that she drew. She participant stated that she likes the idea of the school, because it symbolizes a second home for children, and the classroom is

like their bedroom in this house. This classroom has got big, wide windows, so that a lot of sunlight comes in. In the classroom there is a bookcase with books about different topics around the world. The educator would encourage the students to borrow books. These books would be in various languages and students would be urged to bring their own books and put them in this library. These books could be written in their own language and be about their own culture, and they could be used by the teacher as material for their teaching. The students could also share information about themselves through these books. Additionally, the classroom includes a projector as well, in order to embrace the modern need of technology as well. Furthermore, the participant stresses the importance of having a globe in a central place in the classroom, because geography is very important when having students from various backgrounds. This way, there could be regular references to the globe and the idea of universal home for all people. Outside the classroom the element of nature is very intense. The participant highlighted that students should spend time in nature, and when it is possible the lesson should be outdoors. Lastly, the participant stressed that students should feel equal and free in the ideal school, and that is why she gave the title “A school without borders”.

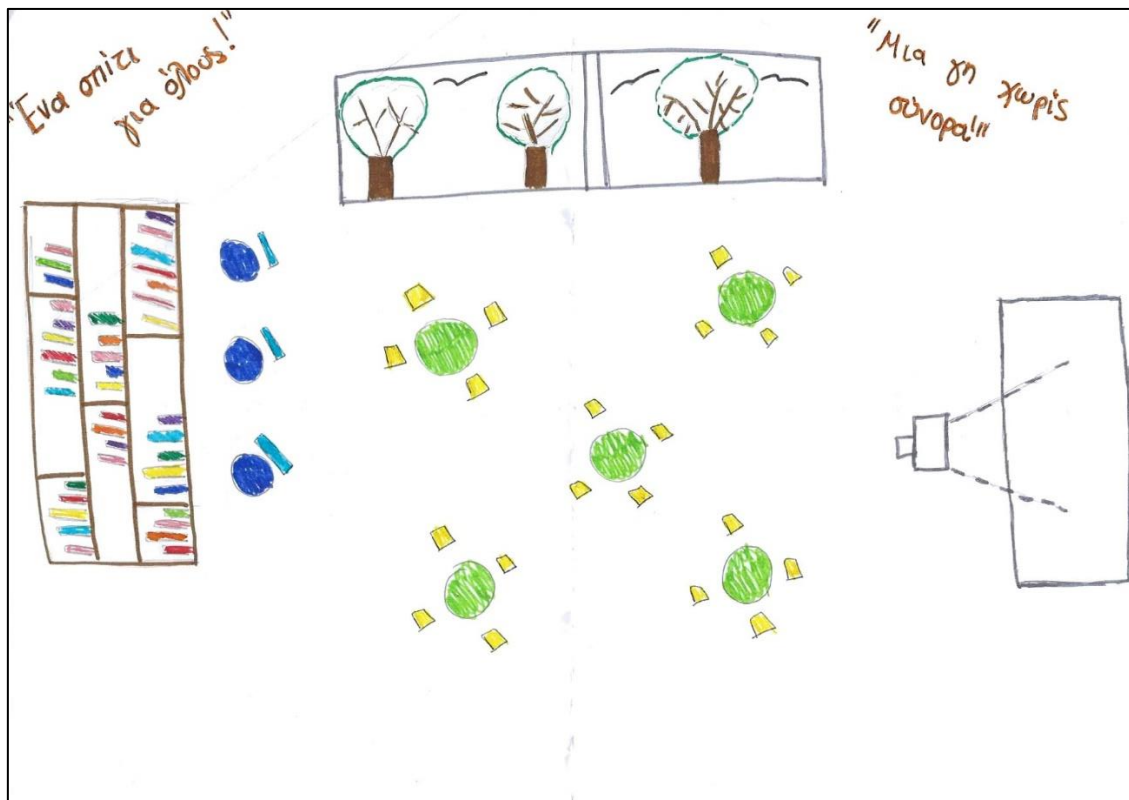


Figure 28. A school without borders: The desks in this classroom are round. There is a bookcase and a projector. Outside the windows there are trees.

4.5 Are serious games an answer to currently insufficient multicultural materials?

All the participants in the researcher's interviews approached the use of SGs in their ESL classrooms positively. They agreed that it would be an effective educational tool for their multicultural classrooms.

Most of them stressed the importance of the technology being a part in the modern learning environment. Computer literacy is a very useful and obligatory skill for the 21st century in order to have job opportunities and deal with the requirements of the everyday life. Therefore, serious games could enhance digital skills.

The introduction of SGs into language learning could assist introverted learners use the language earlier, according to some participants. This would happen, due to the fact that the environment of the game would provide the opportunity for the learner to engage in learning, while they feel self-discharge from the pressure and the exposure to the classroom. So, students will be more relaxed and more motivated to perform inside the environment of the game. Additionally, through the game students can help each other without the students, who receive help, feeling uncomfortable. Assistance from others in the classroom is something effective and not all kids are willing to receive it. Yet, in the game this could be done without exposure to the whole classroom. This aligns with what Pujolà & Appel (2022) said concerning the connection of various students through online communication while playing online. They claimed that through gamification EFL students have a high level of participation and willingness to use the target language in order to communicate and collaborate with others.

Given that the educator, teaching multicultural classrooms, may not have the linguistic repertoire of the whole classroom, some participants mentioned that SGs could boost students' linguistic development in all their languages. If the settings allow it and the games provide feedback and stimuli in all the languages of the learner, the student could have a linguistic boost in all their native languages and the targeted ones. One participant also

mentioned that though the narratives in the games, students will acquire the correct pronunciation in the targeted languages.

According to a participant, the language barrier could be overcome with the use of SGs, because the students could use their own language and visuals in order to express themselves and participate in the learning procedure, until they start acquiring more complex linguistic skills in English. Through online chats and gaming students could form a way of communication from the beginning of the school year, and they generally could enhance their online communication skills. Chatting online is easier than face to face communication. So, they will socialize more through the game and come closer, which will help the unity of the classroom. According to Avdiu et al. (2022), gamification gives students the chance to get to know each other more, gain common positive experiences and realize that they are all equal learners.

As for how a serious game should or could be used in the classroom, most participants agreed that a combination of methods and educational strategies is the best practice. Thereafter, they supported that SGs could assist them in their teaching as supplementary tools to enhance and differentiate their lessons, rather than as unique methods of teaching. One of the participants mentioned that the lesson should not be conducted only by using technology, because students need to know how to write with their hands, too. So, they need to practice actual writing. Some of them expressed the need of a differentiated feedback, which would not seem like the correction of mistakes. They could give feedback in an indirect and smooth way through the game, so that the student does not receive it as a correction from the teacher, and perhaps as a failure. Some participants mentioned SGs as a way of assessment or further practice and revision in order to keep students engaged. According to Gil-Acirón (2022), gamification in L2 is a powerful alternative for the learner's assessment.

Additionally, the participants underlined that SGs would be a tool for them to expose their students to other cultures. According to Avdiu et al. (2022), gamification in education is an effective tool towards the creation of inclusive classrooms. The combination of games and technology creates inclusive classrooms, because they can offer differentiated instruction (DI) to the students in a playful way, through in-vivo instruction, play-based intervention, picture-based systems, social stories, video-based instruction, computer-based intervention

(Kaimara et al., 2021). With the combination of the virtual reality, educators imagined games that would challenge students with various task, which would require that students travel the world and come in contact with other cultures and languages.

Finally, some participants mentioned that due to the lack of infrastructure and technology in many Greek schools, in addition to the current national curriculum, the use of SGs in ESL seem unrealistic, as far as public education is concerned.

5. Conclusion

5.1. Culturally tailored Serious Games in L2

According to the participants, SGs are a tool they would use in their classrooms to teach the English language. Most of them did not know what a serious game was before watching the video or discussing its concept with the interviewer. The potential use of such games in second language acquisition was embraced as an educational practice, but only as a component to other educational methods and theories they already use. One participant underlined that learning could not be based solely on technology, because students must learn to write with their own hands. The participants suggested the use of SGs for module revision, practice, comprehension, classroom bonding, alternative assessment, differentiation of difficulty and cultural content. They stressed that SGs could help all students enhance digital skills, which are necessary for their future. This is quite profound, since not all the students have access to technology in their houses, and even some schools lack technological equipment, thus making students computer competence very limited. The idea of SGs was also welcomed by the educators since they supported that playing is something that brings people together. Consequently, SGs could boost the classroom's bonds and enhance the acceptance of members from different backgrounds by the all their classmates. The classroom unity could also be increased via SGs due to the online communication they offer. Sometimes it is easier for some people to communicate in an indirect way. So, the chat boxes of the SGs could help these students socialize more, according to the participants. And of course, this safe online environment with limited exposure to the whole class could help students, who feel more vulnerable, attempt to participate more without being afraid of their mistakes. Another positive part of SGs in language learning is that they could help students enrich all their linguistic repertoire along with the targeted language of English. This would be a great solution, since it is impossible for teachers to have mastered all the languages of the refugee or migrant students, they may encounter in their teaching careers. Thereafter, they cannot practically help them advance in their L1.

The fact that participants envisaged an ideal serious game for their classroom, which should be culturally tailored, shows how necessary it is for them to have materials that embrace

every student, and build more openminded and welcoming personalities towards different cultures. One idea for a culturally tailored game was the creation of festivals, after students have travelled the world in the game. Another one was about travelling with the help of virtual reality in the game, design their avatars and select information to complete tasks. Another participant imagined a serious game where students would travel to museums around the world and complete tasks, which have to do with art. A further suggestion for a serious game in L2 was proposed by a participant, who raised the possibility of a game that would allow students to see the real living conditions of people in other countries. The data should be updated according to the current changes in every country, and players could choose the age group they want to elaborate on. Another participant proposed a serious game which would provide the student with a digital assistant-friend. This assistant could be designed by the student, and should know all the languages the student knows plus the target language to be learnt, that is English. Through virtual reality they would travel the world and complete the tasks assigned by the educator. Finally, another concept for a serious game that was proposed was that of students visiting open market around the world and interacting with the locals. Or even making friends in the game.

The participants envisaged SGs with a variety of design elements. They wanted the games to have adjustability in difficulty, so that they can address all levels of competence in their classrooms. Additionally, they would like to be able to adjust the content of the games based on the module they teach according to their learning objectives. Given that languages have various levels of competence from A1 – C2, participants claim that there should be various SGs designed for the equivalent linguistic levels. According to the participants, students should be asked about the game. Therefore, they should be given the chance by the settings of the game to change the languages they are exposed to while playing, the characters and avatars of the game, the difficulty of the tasks they have to complete, or the aesthetic design elements of the game. The existence of chat boxes, was characterized as crucial by the educators, so that students can cooperate and communicate with others. Furthermore, the games should have a team and individual mode serving the needs of various educational objectives. The participants also wanted the game to have explicit instructions about rules of grammar, syntax and vocabulary boxes, which would emerge like notifications in the game. This way the game of the teachers should send feedback to the players. The teachers themselves envisaged a serious game that would allow them to observe everything in the

game, be able to make chances in the game of a player, supervise their students' progress and participate themselves if necessary. Finally, the careful design, concerning the content of the game so that it respects all cultures and mentalities, was considered to be vital.

5.2. The ideal multicultural classroom

When the participants of this research were asked to imagine and draw the ideal multicultural classroom, their illustrations gave rise to very interesting topics. Only by glimpsing the drawings, one can acknowledge the fact that most of them have elements of nature. It is a fact that technological innovations boost the learning process, but at the same time younger generations are withdrawn from nature. Wandersee and Schussler (2001), use the term "plant blindness" to describe students' limited knowledge about plants (Fokides et al., 2020). Most educators imagined a classroom without the limits of the walls and the playground. In contrast, they envisaged a classroom in the countryside or close to it, so that students are close to nature. As a result, it is interesting that almost all educators would like such a different classroom, and promote the need to come closer to mother earth. This is twice as interesting, if one takes into consideration that these participants live and teach in Trikala, which is a flatland in the center of Greece with limited pollution. Additionally, Trikala is a city, where most schools have huge playgrounds with trees, and there are parks everywhere. Thereafter, the population in this city has a high quality of life concerning people's proximity to nature, but they still imagine school even greener and away from the conventional desks.

With a more detailed observation over the drawings, it is profound that those educators who did not draw something concerning the nature and the place of a classroom, focused on making sketches about the psychological features of an ideal multicultural classroom. They actually highlighted that psychology comes first, and the acquisition of knowledge follows. Be that as it may, if students have an inner well-being, it will positively influence their academic performance. One of the participants stressed that students need to come in contact with their own selves first, and after having developed the sense of empathy, they can come closer to others. She mentioned that communication is the basis of communities and relationships, so this is what educators should try and teach first. Another participant mentioned that an ideal classroom would be like a turn to collectivism, meaning that students

should learn how to cooperate, respect the importance of every member in a team, share and do their best for a common goal.

Moreover, making students feel safe but at the same time free was the idea of the ideal classroom by other participants. Schools as a community and classrooms as children's second home should embrace diversity and be symbols of unity and acceptance. One of the drawings of the ideal multicultural classroom was entitled "Feeling good", which also shows how important children's psychology is perceived to be by the educators. A friendly and motivational environment will boost children's sense of acceptance and will make the classroom a comfort zone for them to express themselves. This participant underlined that educators should see smiling faces in their classrooms.

In order to have happy and content students, educators should place students in the center of their lesson, according to another participant. Having willing and encouraged students participating in lessons is not an easy attempt by the educators. Yet, in order to achieve this, lessons should be planned according to the students' profile. Students should deal with their interest through the process of learning. This participant proposed that educators should organize their lessons according to their students' hobbies and find ways to incorporate the content of their lesson into these interests.

Another interesting issue emerging from the drawings of the ideal classroom, concerns the role of the educator. The participants who drew a teacher, illustrate an educator, or two, close to the students. The desk of the teachers seems to be an idea far away from the ideal classroom. The role of the teacher in the ideal classroom seems to be that of a mentor. According to the drawings and the participants' analysis of them, the educators of the ideal classroom try to inspire students through meaningful learning experiences, listen to the children's voices and needs, ensure their well-being and happiness, participate and learn close to them, introduce technology and modern learning strategies, nurture healthy curiosity in their students, builds relationships and promote respect of the different.

Perhaps if the educators were asked about the ideal classroom, without it being necessarily multicultural, they would probably make the same drawings. This is because they didn't try to illustrate students' differently. They just tried to think of how children's needs could be covered. Only some of them talked about using all the languages, or having books of many languages, or even having two educators from different backgrounds co-teaching. Most

educators thought of an ideal classroom, taking it for granted that this classroom embraces all children, all languages, all cultures.

5.3. Limitations and Suggestions for further research

This particular research was a case study in Trikala with a sample of 10 educators in public schools. The researcher attempted to (a) explore whether SGs could be an effective instructional tool to facilitate L2 acquisition in classrooms with migrant and refugee learners, (b) investigate what kind of design elements or scenarios SGs for L2 acquisition in multicultural classrooms should have, according to English language teachers, and (c) examine how SGs could be culturally-tailored in order to be utilized in multicultural classrooms. In a nutshell, the result of the research is that educators perceive the potential of culturally tailored games in ESL as a positive and alternative component in their teaching practices, and they have many ideas concerning their design and content.

However, according to Ishaq et al. (2022), so far there has been no model for the design and development of a culturally tailored serious game for L2, and this is something that could be researched further. Additionally, there has been very limited research about gamification in the specific area of second language acquisition (Al-Dosakee & Ozdamli, 2021). Consequently, the researcher suggests that more extent research should be conducted in this area, incorporating the use of a pilot game in classrooms. Future researchers could observe multicultural classrooms using a demo serious game, by watching closely students in various levels of competence and analyzing their engagement, linguistic development, cognitive performance, behavior and classroom unity. Finally, there should be research on the effectiveness of the combination of SGs and other technological advances, like the use of holograms in education as proposed by Fokides & Bampoukli (2022).

Conclusively, in order to shed light on the necessity to reevaluate the European and national policy of free and equal education of all people and respect the human rights and the notion of democratic citizenship, inclusive schools have to be created. In this way, today's children with form a future inclusive society of justice (Samsari et al., 2022).

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Appendix A: Interviewing Agenda

Before the interview

I will inform them that it will be about serious games in second language acquisition in multicultural settings, and I will send them the link I created describing serious games in education.

Possible questions at the beginning of the interview

- Do you teach in multicultural classrooms? If not, have you ever taught one?
- Which was the cultural background of your students?
- Can you tell me about the challenges you face in a typical day in your classrooms?
- Did you watch my video about serious games? Do you have any questions?

First research question: What are teachers' attitudes towards the use of serious games for refugee/ migrant children's integration in mainstream multicultural classrooms?

- Have you ever used a game in your classroom?
- Have you noticed any difference in your learning outcomes when using games compared to other teaching methods? Are there any potential benefits?
- Do you think serious games can be effective in teaching a second language?
- How important do you think it is to balance serious games with other teaching methods in the classroom?
- How do you imagine a multicultural classroom using serious games?

Second research question: Which features should culturally tailored serious games entail for refugee/migrant children's second language acquisition in multicultural classrooms?

- What criteria should educators consider when selecting serious games for multicultural environments?
- What features should a serious games have, so that you use it in your classrooms?
- Can you think of your own serious game? What content would you like it to have?
- How could cross-cultural communication skills be improved through the use of serious games?
- How can serious games be used to promote cultural awareness and appreciation among students from different cultural backgrounds?
- What about psychological support? Could there be any features in the game creating a sense of belonging or safety to the students of different cultures?

Now take your time and imagine an ideal multicultural classroom.

Author's Statement:

I hereby expressly declare that, according to the article 8 of Law 1559/1986, this dissertation is solely the product of my personal work, does not infringe any intellectual property, personality and personal data rights of third parties, does not contain works/contributions from third parties for which the permission of the authors/beneficiaries is required, is not the product of partial or total plagiarism, and that the sources used are limited to the literature references alone and meet the rules of scientific citations.