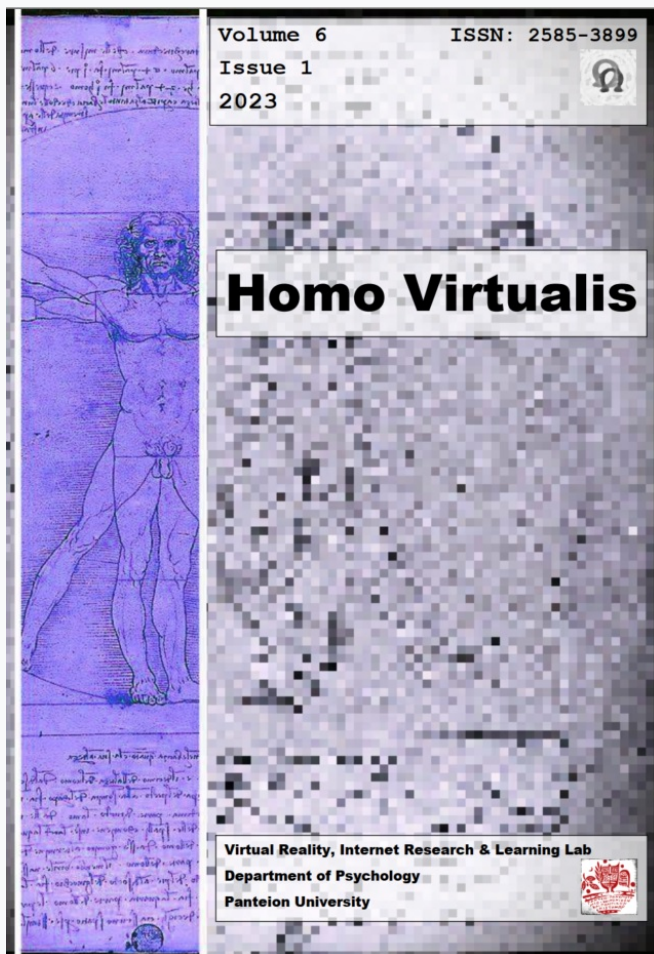


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**Gaming in multicultural classrooms with refugee and migrant children: Exploring the potential of culturally tailored serious games as spaces for second language acquisition**

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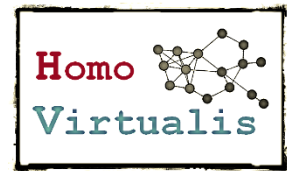
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## **Gaming in multicultural classrooms with refugee and migrant children: Exploring the potential of culturally tailored serious games as spaces for second language acquisition**

**Konstantina Panagou<sup>1</sup>, Alexios Brailas<sup>2</sup>**

**Abstract:** Due to the emergence of technology and people's dependence on it, coupled with global human flows causing intense student mobility in schools, the need for a new educational paradigm arises. On the one hand, people are becoming increasingly reliant on the satisfaction modern screens provide, and all other stimuli seem uninteresting and dull. In these terms, traditional educational methods appear outdated and ineffective for the modern classroom. Today, education is a critical factor influencing and preparing people to become citizens of a world without borders. Moving in this direction, educational tools should be diversified and adjusted to a multicultural context so that all students can emotionally relate and identify themselves with the knowledge they are taught. The use of gaming in education is a popular new addition to modern classrooms. This article will present the results of a research project that investigated the potential use of serious games in multicultural environments as a space for the acquisition of English as a second language. More precisely, the study focused on the culturally-tailored content of serious games and their ideal design features, according to English teacher practitioners working with refugee and migrant populations in Trikala, Greece.

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

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## **Introduction**

Playing is considered to be one of the core elements for shaping 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). The modern technology-enhanced classroom has added a new dynamic to the learning process, due to an array of new learning tools employed, giving a playful perspective to the acquisition of new knowledge. Modern classrooms are also multicultural and multilingual due to the increased refugee and migrant flows. Therefore, teachers are asked today to educate people from completely different cultural backgrounds, thus leading to numerous challenges because of various language and cultural barriers (Bhandari & Dhakal, 2022).

Teachers are looking for new and alternative teaching tools, so that a variety of languages and cultures could be effectively and efficiently incorporated and addressed into their teaching practice (Kurian, 2023). Consequently, *Serious Games* (SGs) could become a powerful arrow in educator's quiver, when teaching in multicultural environments, to provide their students with a suitably meaningful and educational experience, so that the designated content of the game addresses the diversity of the players (Shum et al., 2023). 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). Prior research on the incorporation of SGs in the specific field of language acquisition is limited (Ishaq et al., 2022). One of the latest studies was that of Ishaq et al. (2022) who stressed the need of SGs with cultural context in second language teaching in Spain. Another study was made by Georgiev & Nikolova (2021) in Bulgaria, concerning virtual reality SGs in the education with cultural content.

In this article, we investigated the implementation of SGs as a tool for the acquisition of a second language in multicultural classrooms in Trikala, Greece. The first part of the study presents the attitudes of English teachers, concerning the potential use of SGs in their multicultural classrooms. The second part of the study focused on the perspective of designing culturally-tailored SGs, according to educators' desirable features.

## **Education in multicultural environments**

The population of every country increasingly becomes multicultural, leading consequently to the rise of the multicultural classroom (Mustafida, 2021). Sensitivity towards different cultural backgrounds and appreciation among all students hence should be included into instruction, enriching the learning experience of the students through the promotion of cultural awareness (Alsubaie, 2015). 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 should 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).

Refugee and migrant students come into the classroom with various schooling experiences, with a spectrum ranging from no education at all to fully receiving the appropriate for their age schooling (Drolia et al., 2020). 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).

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). 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 bridge/connection between the two languages (Blom et al., 2021). Additionally, a language cannot be taught without its culture, even if learners communicate in this language without comprehending its cultural mindset (Sinaga et al., 2023). Proposed as a solution to this problem, technology-enhanced learning tools seem to promote the targeted linguistic and cultural value in an engaging and communicative environment (Kurian, 2023).

#### *Towards a multimodal education*

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). In these terms, nowadays teachers are asked to become designers of socially- and culturally-tailored multimodal activities (Dupuy & Warner, 2023). It is worth considering whether the multimodal components 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).

#### *The developmental impact of gaming for children*

All different sectors and levels of education have been irreversibly shaped by experiential, online and simulation learning activities, thus reducing the didactic learning part and expanding the cognitive one (Brailas, Avani, et al., 2017; Maamari & El-Nakla, 2023). Game Based Learning (GBL) pertains to the use of electronic games in education, in order to boost and enhance the teaching and learning experience (Sun

et al., 2023). Learning analytics suggest that the whole curriculum of the school systems should be redesigned around games (Kim et al., 2022).

Edutainment in education involves many variables and qualities, like multimodality, interactivity, virtuality, hypertextuality, digitalization, modularity and non-sequentiality (Mateus De Oro et al., 2022). Edutainment changes the way the learner accesses and generates new knowledge, because the means to information and practice have become more flexible, and provides the learner with new alternatives, thus extending the scope of the educational experience (Kurniawati et al., 2023).

While GBL accounts for a small component of the entire learning and teaching process, gamification concerns the transformation of teaching in such a way that any directions provided to students come mainly through a game (Sun et al., 2023). According to Avdiu et al. (2022), gamification in education is an effective tool towards the creation of inclusive classrooms. 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). According to (Gil-Aciron, 2022), gamification in L2 is a powerful alternative for the learner's assessment.

### **Serious games in Second language Acquisition**

Today, we witness a resurgence of educational games, because of the emergence of SGs, which may have entertaining characteristics, but at the same time their purpose is to serve particular educational goals, experiences, and outcomes (Shum et al., 2023). SGs are considered a useful learning tool, but there is no common consensus so far concerning the set of factors influencing the learning experience or the way to evaluate them (Baptista & Oliveira, 2019; Zhonggen, 2019). Games should be designed based on psychometrics and learning theories to provide instructions, feedback and assessment (Kim et al., 2022). According to Schrader (2023), there is an interplay between the design features of the games and relevant aspects of learning; thus, the mode of play, the learner control, the aesthetic and narrative design, feedback and support are the most important design elements. According to Pitarch, (2018), an effective gamified experience is based on three elements: mechanics, dynamics and emotions.

The acquisition of a native language is closely connected to culture, through the social environment and the family (Nikolova, 2022). Therefore, it is necessary to design SGs for L2 acquisition situated 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). 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 cultural context of a game refers to its usability, content and assessment, 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 far as the role of the educator is concerned, teaching in the era of Artificial Intelligence, educators have to transform into mediators, who will facilitate their learners develop and grow through a more humanistic and culturally sensitive approach (Brailas, 2023; Gentile et al., 2023). The educator should be by their side to pose questions, provide resources, give extra support to some students in the form of an extra required intervention, and help students manage their time and collaborate with each other (Shi & Blau, 2020). Additionally, 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). In a nutshell, the educator of the modern classroom has to be the facilitator on the side who advises the learners in order to reach their personalized goals (Brailas et al., 2017).

## **Research Methodology**

The research methodology employed in this thesis is grounded on an Action Research epistemological framework where the teacher practitioner is also a researcher (Brailas, Avani, et al., 2017). 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 first author observed that the performance gain of the students, who are used to playing computer games is much higher than the performance of those 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. With that knowledge in mind, the authors suggest that SGs should be culturally-tailored, so that they can be used as an innovative and fun means to teach an L2, but also raise cultural awareness and respect, thus creating a friendly and inclusive environment for students from every background.

The aim of this research was 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 was 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. More precisely, the researcher investigated which features and scenarios could contribute to successful SGs in multicultural classrooms, according to English language teachers.

Drawing from the above rationale, the emerging research questions to be explored are as follows:

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

A qualitative research design was developed as the most suitable research approach to address the purpose of the study, since the teachers as participants of the research were 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. Qualitative research is a situated activity that puts special emphasis on the personal lived experiences of the participants (Brailas et al., 2023).

Following the previous methodological and epistemological considerations, this is a case study research that took place in Trikala, Greece. According to Creswell & Creswell (2018), education is a field which can be analyzed in depth through case studies. More specifically, the educators/participants 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 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). Because of the active contribution of the participants, who were encouraged to co-shape the direction of the research, the research entails a participatory world view as well (Wright, 2021). As a result, the research serves as an action agenda to change the participant's life for the better.

The participants in this study were ten English language teachers working in public schools in Trikala, Greece. The participants teach in classrooms which currently include, or have included before, refugee or/and migrant children. The educators' gender and school rank are presented in Table 1. Both research questions were answered by data produced through an individual semi-structured interview with each educator.

**Table 1.** Participants' age group and school rank

	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	-	-	-	-	-

For the collection of the qualitative data in this case study, 25-minute semi-structured interviews were conducted, which followed all academic research ethics, and were anonymous and voluntary. The interviews included the arts-based method of drawing, as an alternative to investigate the research problem, reaching data that would otherwise remain silent via a verbal-only interview (Vakali & Brailas, 2018). Before the interview, a short video was sent to the participants as an orientation tool concerning what SGs are. For the introduction of the drawing in the interview the researcher chose the "post-interview approach", according to which there are some open-ended initial verbal questions (forming an interviewing agenda for the semi-structured interview), and after the drawing task, the researcher encourages a mini verbal follow-up interview with each participant sharing and reflecting on their drawing (Brailas, 2020).

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). For the representation of the raw empirical data, the researcher used the open-source software tool QualCoder, which helps the researchers to organize the emerging themes in their data (Brailas et al., 2023).

Commitment to the ethical standards for conducting research was maintained throughout this study to ensure the protection and well-being of all the participants involved as it is required by the Hellenic Open University. Prior to their engagement in the study, all participants were provided with an informed consent form. This document explicitly outlined the nature and purpose of the research, the procedures involved, and the fundamental rights of the participants. It emphasized their voluntary participation, the right to withdraw at any stage without the need to explain, and the confidentiality and anonymity of their responses.



## **Results: Exploring the potential of culturally tailored serious games in L2**

### *Educational reality in multicultural classrooms through educators' lenses*

The participants stated an experience span ranging from 1 year to more than 30 years of English teaching experience in public schools. During their years of experience, the participants mentioned teaching students from Albania, Ukraine, Iraq, and Syria, as well as Roma students. Following the official curriculum requirements, most participants added extra material to differentiate their lesson or make it more interesting.

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. According to participants, students have a lot of exposure to the English language nowadays and do not struggle to use or understand the language. Additionally, 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. A participant mentioned that migrant and refugee students contribute towards building a useful linguistic diversity in the classroom, along with the diversified educational stimuli these students have received so far in their lives. According to another participant, it is very interesting to ask students about their languages and see about commonalities and differences among languages, thus including the cultural part. Apart from following the national curriculum, some participants introduce audiovisual materials and games to enrich their lessons.

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 may have a similar level of competence. Most participants mentioned that they needed to enrich their lessons with online games and software to make them more entertaining and interesting for younger learners. One participant stressed that playing is a way to overcome inequalities.

### *Specific elements in the serious games required by teachers*

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

- *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 SG which would help them provide differentiated tasks to their students, based on their learning profile.
- *The content of the game.* Educators need to be able to make changes to the content of the game, based on the topic they want to teach or the learning objectives they have set.

- *Respecting all cultures and mentalities.* Since SGs will be culturally-tailored, they should be carefully designed and introduced. 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.
- *Player's access to the game.* 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. It is vital that students decide for their own education.
- *Played both individually and in teams.* 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.
- *The teacher as a big brother.* 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. Teachers should be able to participate and help students or create challenges for them. Finally, playing with their students will create a stronger teacher-student bonding.
- *Indirect and smooth feedback.* Feedback must be given in a way during the game, without disrupting the flow of the player or making the game too educational and dull. The game should offer explicit instructions and rules of Grammar, Syntax and Vocabulary in help boxes that will emerge in the screen when necessary.

### *Educators' envisioned serious games in L2*

As a thought experiment, they were encouraged to imagine that a programmer could create whichever SG they wanted, incorporating any features and content they desired for their educational goals. Some scenarios are presented as follows:

- *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. For instance, the festivals could be about the cuisine of a country or its traditional clothes. The players could travel in the game, talk with others about a specific culture, cook the traditional dishes and then organize a festival themselves about the culture they have encountered. The players could edit their avatars 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.

- *Museums around the world.* Based on the students' background, the teacher assigns them tasks with specific works of art, so that the students travel to those countries and receive stimuli from those cultures. Inside the game students would have to interact and communicate their thoughts and information to each other. They would be encouraged to use English, but their mother tongues as well. The difficulty and complexity of the tasks would be according to the students' linguistic level. For instance, at a low level the students would have to observe the painting and notice the colors of it, find the name of the artist, or the country of origin.
- *Future place of residence.* Everyday life is a very important aspect of students' future, and the school should help them choose what country is 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 country. The players would 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.
- *The 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. 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, like being serious or having a sense of humor. 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 their mother tongue as well, but is trying to teach them English.
- *Visiting open markets.* The players should travel to open markets around the world and ask the locals how they call various products and foods. 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. 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.

- *Role play.* 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. A SG 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 SG should respect the mentality and culture of all students in the classroom.

Conclusively, educators envision SGs as a powerful and realistic tool to assist their students feel the reality in other countries and interact with it, so that they can accept and respect their co-students with a different background. Yet, after the gamified tasks, educators ask for a real-life interaction of the students in the classroom, to build real and strong relationships among the students.

### **The ideal multicultural classroom through educators' drawings**

When the participants of this research were asked to imagine and draw the ideal multicultural classroom, their illustrations gave rise to very interesting topics.

- *Nature.* Only by glimpsing the drawings, one can acknowledge the fact that most of them have elements of nature. Most educators imagined a classroom without the limits of the walls and the playground. 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 (Figure 1).



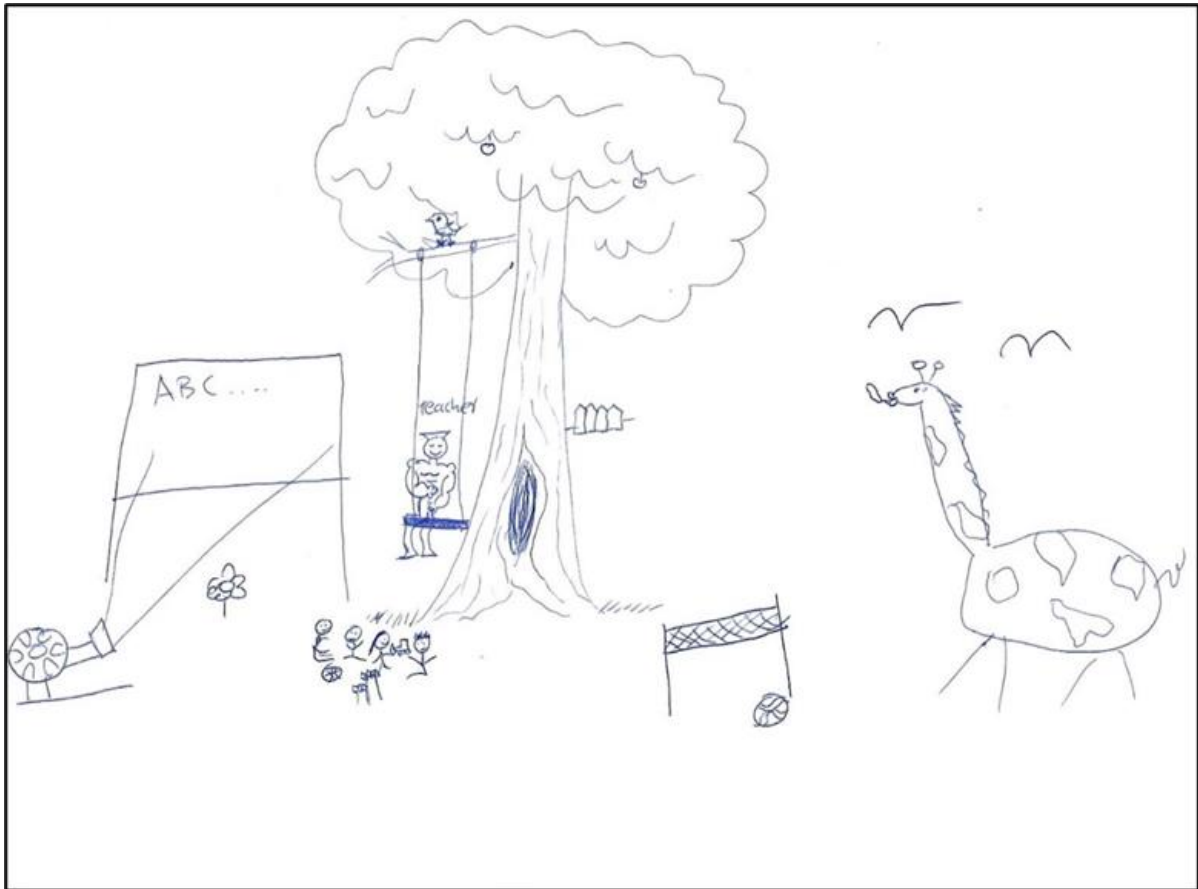
**Figure1.** Drawing entitled 'Travel around': The students sit on a round carpet. Every seat depicts the flag of a country and has the same black footprint on it, showing that every kid is treated equally. Elements of nature are inside and outside the classroom's walls. There are two educators with a different linguistic repertoire.

- *Psychology.* Some educators focused on making sketches about the psychological features of an ideal multicultural classroom. They highlighted that psychology comes first, and the acquisition of knowledge follows. Students should feel safe and at the same time free. The classroom should be a comfort zone for them to express themselves. If students have an inner well-being, it will positively influence their academic performance and their socialization (Figure 2).



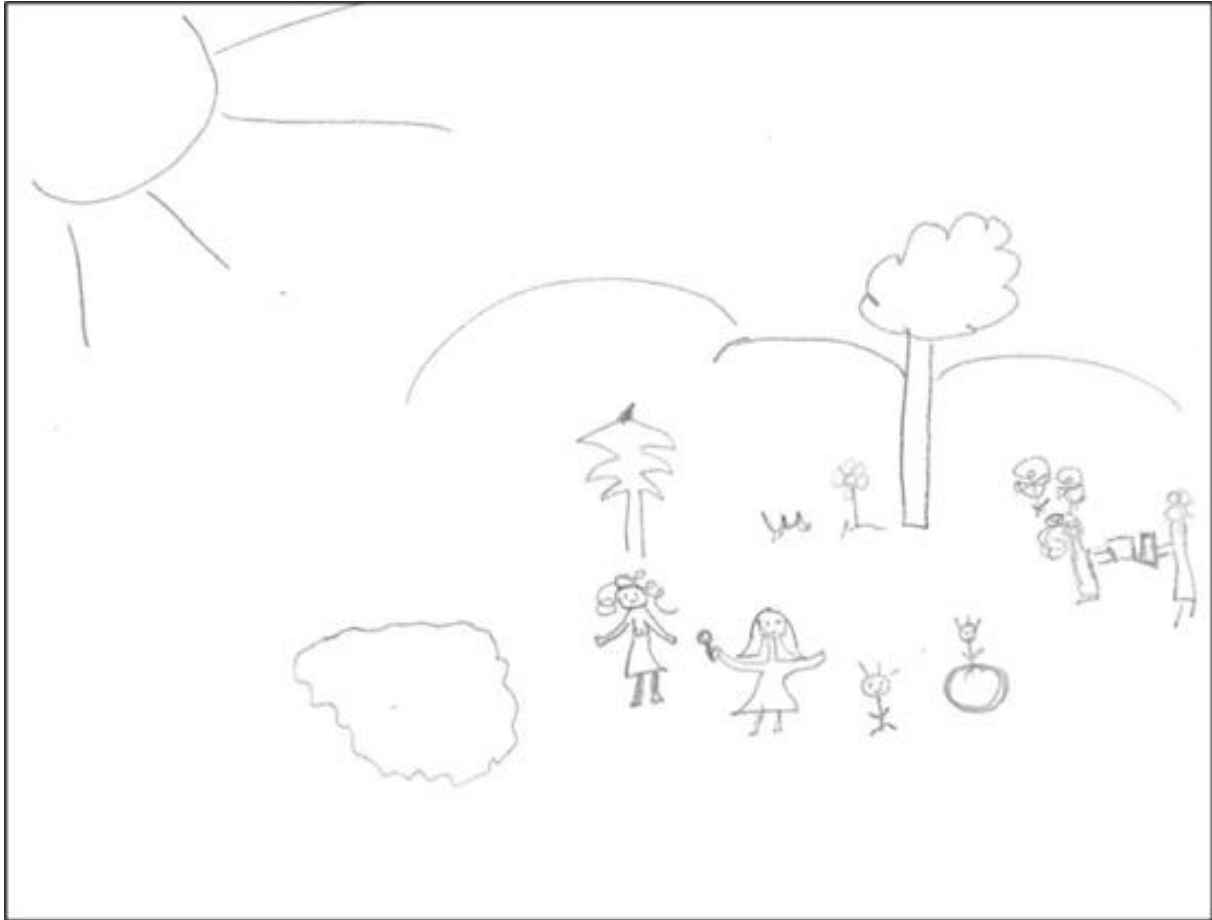
**Figure 2.** Drawing entitled 'Experience': The participant drew a parallel between the flowers and the students. students should feel intimacy, happiness and safety among the other students and educators, like the flowers which harmoniously belong to their environment in the forest.

- *The educator.* Another interesting issue emerging from the drawings, concerns the role of the educator who is presented as 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, learn close to them, introduce technology and modern learning strategies, nurture healthy curiosity in their students, build relationships and promote respect of the different (Figure 3).



**Figure 3.** Drawing entitled '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 white-board, along with animals and a tree. The fence in the background is not completed on purpose.

- *Multicultural is itself ideal.* 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 most of them did not try to illustrate students' differently concerning their culture. 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 (Figure 4).



**Figure 4.** Drawing entitled 'A school for everyone': The classroom is outside in the nature. The educator is next to the students. Some of them are holding tablets and one of them is sitting on a bouncing ball. The participant suggested a forest school which will combine technology and nature.

### **Are serious games an answer to currently insufficient multicultural materials?**

All the interviewed participants approached the use of SGs in their ESL classrooms positively, agreeing it would be an effective educational tool for their multicultural classrooms for the following reasons.

- *Digital literacy.* Computer literacy is a very useful and obligatory skill for the 21st century to get job opportunities and deal with the requirements of the everyday life. GBL is a vital part of the modern learning environment, as well. Therefore, SG could enhance digital skills.
- *Address more student profiles.* The introduction of SGs into language learning could assist introverted learners use the language earlier, since 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. After receiving help from other students or their teacher in the game, they will be more motivated to perform in the real environment of the classroom.

- *Linguistic development in L1 and L2.* Given that the educator, teaching multicultural classrooms, may not have the linguistic repertoire of the whole classroom, 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.
- *Overcoming the language barrier.* The language barrier could be overcome with the use of SGs, because the students could use their own language and visuals to express themselves in the game chats, and participate in the learning procedure, until they start acquiring more complex linguistic skills in English. Chatting online is easier than face to face communication. So, SGs could facilitate students' initial socialization.
- *Combining educational methods.* As for how a serious game should or could be used in the classroom, most participants agreed that a combination of methods is the best practice. SGs could assist teaching as supplementary tools to enhance and differentiate lessons, rather than as unique methods of teaching.
- *Feedback and evaluation.* SGs could provide differentiated 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. SGs could be an alternative way of assessment, further practice or revision in order to keep students engaged.
- *Exposure to more cultures.* SGs would be a tool to expose students to other cultures and create inclusive classrooms. With the combination of the virtual reality, educators imagined games that would challenge students with various tasks, which would require that students travel the world and encounter other cultures and languages.

### **Concluding thoughts**

Most participants did not know what a serious game was before watching the video or discussing its concept with the interviewer, but during the interview they ended up imagining their own SG and their practical design elements. The fact that participants were able to envisage ideal culturally-tailored SGs in such a short period of time, shows that educators can be very creative and aware of their students' multicultural needs, and are able to provide useful materials to build inclusive classrooms. According to Avdiu et al. (2022), gamification in education is an effective tool towards the creation of inclusive classrooms, since students gain common positive experiences and realize that they are all equal learners.

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. The participants suggested the use of SGs for module revision, practice, comprehension, classroom bonding, alternative assessment, differentiation of difficulty and cultural content. Finally, educators imagine the ideal multicultural classroom outside in a forest, where student's psychological needs and well-being is in the center of interest and the teacher's role is that of a mentor. 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'. In this way, the educator along with the refugee students co-create their learning community, an autopoietic system with emergent properties (Brailas, 2023).

### *Limitations and Suggestions for further research*

This research was a case study in Trikala with a sample of 10 educators in public schools. Therefore, more extent research should be conducted in this area, incorporating the use of a pilot game in classrooms. Future studies could explore 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 bonding. Finally, there should be research on the effectiveness of the combination of SGs and other technological tools, such as generative AI.

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