Multicultural Education with AI: The Case of “A World at the Table"

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ABSTRACT

The "A World at the Table" project describes an interdisciplinary teaching experience conducted in a multicultural lower secondary school class at the IC "Ferrajolo - Siani" in Acerra (NA). Its aim was to promote integration, inclusion, and global citizenship through the collaborative writing of a song. Using digital tools and generative Artificial Intelligence (GenAI), students from diverse cultural backgrounds (Albania, Belarus, Brazil, Italy, Serbia, Morocco, Ukraine) co-created song lyrics that reflect the value of diversity, inclusion, and intercultural dialogue, inspired by traditional dishes from their home countries.

The project used food as a symbol of unity to facilitate an understanding of multicultural dynamics and cooperation. Simultaneously, students developed transversal skills such as critical thinking, creativity, and collaboration, responsibly using AI to create a musically cohesive final product. The experience had a significant impact on the students' linguistic, social, and emotional skills, fostering inclusion and reducing the risk of early school leaving. The initiative also aligned with European and national guidelines by promoting active, integrated learning and contributing to the creation of a more cohesive and intercultural school community. The project serves as an example of inclusive and innovative teaching, with plans to proceed with a live performance of the song and the choreography using further advanced AI tools.

INTRODUCTION

Integration and inclusion in multicultural social contexts represent a current, fundamental, and urgent challenge, especially in the lower secondary school. The conscious use of Artificial Intelligence (AI) in teaching offers new opportunities to promote creativity, intercultural dialogue, and the development of transversal skills, all of which are essential for global citizenship. This aligns with objectives 4-5-10-16 of the 2030 Agenda [1,2] and provides teachers with innovative tools to personalize learning and amplify students' communicative potential. The creation of peaceful societies through knowledge and respect for different cultures is a common thread in teaching multi-ethnic classes. This encourages teachers to emphasize the importance of dialogue that embraces the opportunities presented by diversity, leading to the understanding that cultural and social integration are opportunities for personal and social growth, peace-building, and the preservation of the environment and its biodiversity [3].

The need to create peaceful intercultural societies is also a priority of the European Union. The "Council Recommendation on Key Competences for Lifelong Learning" [4], which was adopted by the Italian State with DM 254/2012 [5,6], outlines key competences for active citizenship, initiative, effective self- expression in one’s native language and a second language, and social and civic skills.

These skills are defined as the ability to plan and organize one's work, connect knowledge acquired in different contexts, and critically interpret information to promote meaningful and transferable learning. They also include the ability to cooperate and collaborate, to recognize the rules of citizen relations and ethical principles (equity, freedom, social cohesion), and to live responsibly by preserving and respecting freedoms and democracy.

This case study describes an interdisciplinary workshop conducted in a third-grade class at the lower secondary school IC “Ferrajolo-Siani”, which is characterized by significant cultural diversity and a disadvantaged socioeconomic context. The project’s goal was to foster inclusion and more

participatory, equitable, and meaningful teaching through the co-creation of a song using digital tools and generative AI (GenAI).

By integrating discussions and reflections with technology and GenAI, students were able to get to know one another, and to understand and appreciate cultural diversity, starting with the traditional dishes of their home countries: Albania, Belarus, Brazil, Italy, Serbia, Morocco, and Ukraine. In line with the Manifesto of Generative Artificial Intelligence in Schools (MIAS, Ob. 1-2-4) [7], the project also promoted the responsible use of AI, as well as ethics, digital security, inclusivity, accessibility, and the enhancement of emotional and social skills.

MATHERIALS ANS METHODS

Description of the class and context. Class 3G at the "Ferrajolo-Siani" Comprehensive Institute of Acerra (NA) for the 2024-25 school year consists of 17 students aged 13 to 14, with a strong multicultural presence (students of Italian, Serbian, Chinese, Belarusian, Moroccan, Albanian, Brazilian descent). The class includes two students with first-level disability and one student with Special Educational Needs (SEN) due to sociocultural disadvantage. The socioeconomic background is predominantly lower-middle class, characterized by a limited appreciation for education and a lack of educational and social spaces. School participation is often passive, with generally beginner or basic learning levels, with the exception of a few students who have a consistent study method. The use of digital technologies is primarily limited to leisure activities. In this environment, the school and its teachers are committed to improving educational success and promoting soft skills through innovative and inclusive practices, with the goal of preventing bullying and early school leaving.

Methodology. Cooperative learning was adopted, structured in the five phases of Inquiry-Based Science Education (IBSE) and consistently guided by the teacher. Students were divided into heterogeneous groups of 4-5 members and assigned specific roles (leader, facilitator, recorder, timekeeper), which were formalized through documents shared on Google Classroom [8]. Students used personal devices in the classroom for innovative educational activities, under supervision, and with school Google Workspace accounts. GenAI tools were used exclusively on the teacher's PC to ensure the safety of minors under 14 years old, in accordance with Italian and European regulations.

Tools used. *Engage Phase*. The Engage phase began with the reading of the illustrated book "Diversi ma Uguali" (Different but Equal) by Giunti Kids Publ. (fig. 1), which introduced the theme of the meeting of different cultures through a festival. The students participated in an interactive brainstorming session on Mentimeter, reflecting on the concepts that emerged in the word cloud. Next, a group research task was proposed via Google Classroom, asking students to answer guiding questions about the similarities between the class and the story and the possibility of holding a multicultural festival to showcase the sights, sounds, smells and traditions of different countries.

Explore Phase. After analyzing the initial responses, an open class discussion was held. Using Google's Notebook-LM, the students researched common ingredients in their countries' traditional dishes, geolocating their origin and how they spread around the world. A new research activity was then started on Google Classroom, using online sources and textbooks to answer guiding questions about food's role as a vehicle for intercultural dialogue, building peaceful societies, and the relationship between inclusion, environmental sustainability, and the reducing migration.

Explain Phase. The groups summarized the topics that emerged through drawings or images selected from online repositories. After a multicultural festival organized with their families, where the students shared traditional dishes from their home countries (byrek and baklava from Albania, draniki from Belarus, peru and feijoada from Brazil, dim sum and tangyuan from China, escarole pizza, fried cod, struffoli and roccocò from Italy, couscous and el asida from Morocco, ćevapi and prebranac from Serbia, varenyky and kutia from Ukraine), the students reflected on the emotions

evoked by food as a tool for unity. The insights from this reflection led to the proposal of writing a song about cooperation and building an inclusive community.

Elaborate Phase. During the creative writing phase, students used GenAI tools. Each group developed a prompt about the value of diversity and intercultural dialogue, connecting it to cultural values, family memories, and symbols of peace related to the dishes prepared for the festival. These individual prompt were integrated into a single prompt for ChatGPT: "create lyrics for a song on the theme of inclusion that comes through typical dishes from the students' countries of origin, such as Albania, Brazil, Morocco, Ukraine, Belarus, Serbia, China, and Italy; prepare and illustrate the dish; also include the theme that by getting to know each other and through dialogue, peaceful societies can be created. Emphasize that peaceful societies are the prerequisite for a world where the environment is clean, the ecosystem is healthy, and biodiversity is saved"

The generated text was then refined with ChatGPT, Gemini, Copilot, and DeepSeek to improve its meter, coherence, musicality, and rhythm, and to adapt it to an adolescent's language. The final version was uploaded to the Suno.AI platform for musical creation, with arrangements in the rap, hip hop, pop, and jazz styles, and subsequent modifications using the extension function.

The generated song was converted into sheet music with chords for the various instruments detected by paid version of Klang.io, through the teacher's subscription. The sheet music was performed by students who take private music lessons outside of school, thereby validating Klang.io's transcription accuracy (fig. 4).

The students searched for images of traditional dishes and them on Google Classroom. Using the free version of Tripo3D.ai, with the teacher's login and PC, the photos were converted into 3D objects by GenAI algorithm that transforms 2D images into 3D models. The resulting objects were downloaded in ".glb" and ".html" formats and uploaded to 360° photo planisphere in Thinglink. For each traditional dish, historical, cultural, and etymological information has been added, along with recipes including ingredients and preparation steps (fig. 5).

Evaluate Phase. The teacher conducted the evaluation using an ongoing observation grid that focused on the skills being developed. Each student received continuous and final individual feedback, with an assessment that covered both the process and the final product, using rubrics that were shared with the students. Metacognitive reflection was stimulated by discussions, guided reflections, and tools such as learning diaries, checklists, and evaluation sheets. The evaluation and self-evaluation criteria included participation, text quality, integration of cultural elements, conscious use of digital tools, adherence to deadlines, inclusion, and the abilities of problem setting, problem solving, communication, and teamwork.

RISULTS AND DISCUSSION

In the creative writing project of class 3G (2024-25 school year), led by technology teacher Peluso AL, the 17 students were involved in a workshop that explored the theme of inclusion and the creation of a peaceful and sustainable society. The initiative promoted a collective reflection on diversity and integration, starting with the book "Diversi ma Uguali" (by Giunti Kids Publ.) and focunsing on the multicultural dynamics of the class. Students worked on different dimensions of diversity – cultural, social, and environmental – by exploring universal themes like peace, respect, and environmental protection. This sparked a deep reflection on the concepts of diversity and inclusion. The most creative and insightful contributions came from students with Learning Disabilities (DA) and Special Educational Needs (BES), as well as those at risk of indirect early school leaving, who found an opportunity to express themselves through musical writing and collaboration.

The analysis of the word cloud, generated by their reflection on the tex, and focusing on concepts such as "diversity", "colors", "inclusion", "typical foods", "animals", "games", "laughter", and "peace",

helped students to understand their identity as a multicultural class (fig. 2). They explored the culinary traditions of their home countries (Albania, Ukraine, Belarus, Brazil, Serbia, Morocco, and Italy), realizing that food is a powerful cultural symbol that expresses not only a people's identity but also its history and traditions. In particular, they noted that traditional dishes are not only different but also rich with emotional meanings, evoking nostalgia and a sense of belonging. They also discovered that, through migrations and trades, common ingredients have linked tastes and traditions around the world.

The analysis of culinary traditions led to the spontaneous involvement of families and the organization of a multicultural festival to discover and share these dishes. This event had a symbolic value, representing a moment of genuine listening and understanding among students, a moment of unity where cultural differences were celebrated and appreciated. The reflection on peace, also aided by research with Google's Notebook LM, continued in relation to historical and geopolitical dynamics. The students examined how war destroys resources, raw materials, and generates pollution, which also limits renewable natural resources like water. They understood that building a peaceful society depends on the ability to respect and protect the environment and to prevent wars and conflicts that threaten biodiversity and collective well-being. The awareness that building peace starts with understanding shared values, such as food or a festival, and with valuing cultural diversities emerged as a fundamental result of this educational path based on intercultural and intellectually honest dialogue, as shown in student's drawings.

At this point in the project, the students decided to summarize their reflections in a song that would express their message of peace, inclusion, and intercultural dialogue. To overcome the difficulties of writing the lyrics, they used Generative AI (GenAI) tools after a lesson on the conscious use of AI, which also addressed the risks and potential of these technologies. The use of ChatGPT, along with other GenAIs like Gemini, Copilot, and Deep Seek, allowed them to refine the meter, coherence, and musicality of the text (fig. 3). It was used on Suno.AI to generate a song in pop and hip hop styles, available to listen to below link https://bit.ly/AWorldattheTable_PelusoAL .

Using the paid version of Klang.io, through the teacher's subscription, the song was converted into sheet music with chords for the various instruments detected by the GenAI application (fig. 4). The sheet music was performed by students who take private music lessons outside of school, which validated the accuracy of Klang.io's transcription.

The online image of their traditional dishes were used on free version of Tripo3D.ai, with the teacher's login and PC, in order to convert them into 3D models. The ".glb" formats were them upload on Thinglink (fig. 5).

For assessment, the teacher used observation grids while the students worked, as well as open written compositions on the theme of inclusion. For metacognitive reflection, students completed self-assessment forms that focused on their individual contribution and their roles within the group. The same rubrics were used by both teacher and students to assess the process and the final products. Specifically, the assessment covered disciplinary and transversal skills, digital, emotional, social, and soft skills, critical thinking, effective communication in Italian, and the development of an ethical and responsible attitude towards GenAI. The enhancement of intangible cultural heritage and community cohesion were also key evaluation criteria.

The activity had a strong impact on the students' linguistic skills, particularly in reading, writing, revising, and poetic production in Italian, enriching their vocabulary, helping them learn more complex syntactic structures, and improving their ability to revise and self-assess. Furthermore, group reflection and writing stimulated creativity and collaboration, which are essential for their personal and social development [4,5,6].

On a disciplinary level, the project integrated several subjects, including Technology, Italian, Music, History, Geography, and Art. In Technology, students explored the conscious use of GenAI, learning

how to approach problems and hypothesize outcomes based on informed decisions. In Italian, they learned to present content of various kinds coherently, also improving their critical awareness of social and cultural issues. In Music, they developed skills in composition, listening, and interpretation, while in History and Geography they studied the cultural traditions and histories of their home countries. In Art and Image, they created visual products that integrated various codes and disciplines [4,5,6].

The project also responded to various European and national guidelines, such as those relating to areas 3-5-6 of DigCompEdu [9,10] and STEM skills DM184/2023 [11], by promoting critical thinking, creativity, interdisciplinary integration, and active learning. It fostered inclusion and gender equality, stimulating cooperation among students and valuing cultural identities. It also contributed to developing advanced digital skills, preparing students for new professions and future challenges, in line with the Guidelines for Orientation (DM 328/2022) [12] and the recommendations of the 2030 Agenda, particularly with 4, 5, 10, and 16 Sustainable Development Goals [2]. Finally, the activity had a strong impact on reducing early school leaving, offering students the opportunity to express their potential in a context that promotes creativity, critical thinking, and collaboration. The project, therefore, contributed to creating a more cohesive school community capable of valuing diversity and promoting an intercultural dialogue that can serve as a model for building a peaceful, inclusive, and sustainable society.

CONCLUSIONS

“A World at the Table” is a strong practical example of inclusive and innovative teaching that promotes the integration of AI technologies in a multicultural context. It allowed students to experience the value of their own and others' cultural identities, transforming the classroom into a space of cultural exchange and social growth. The students acquired not only disciplinary knowledge but also fundamental transversal skills for their future professional and social lives, in line with the 2030 Agenda, the National Guidelines for basic skills, the guidelines for STEM subjects, and the Guidelines for Orientation. Moving forward, the class will perform the song live, accompanied by a choreography that incorporates 3D-printed Tripo3D.ai models of their traditional foods. The experience highlights how education, when rooted in dialogue and creativity, can truly shape global citizens.

This educational approach can be adapted to different school and social contexts because food is a shared part of everyone’s daily life. Additionally, the project could be further developed by integrating a ChatBot tutor during the brainstorming and lyric-writing phase. In this way, students could individually express their ideas and creativity in a dialogue with the AI tutor, free from peer judgement. The teacher could then facilitate a collective class discussion based on the contributions collected.

FIGURE APPENDIX

Fig. 1: “Diversi ma Uguali” Giunti Kids Publ. Cover

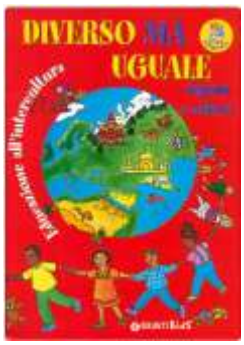

Fig. 2: Word cloud generated by the reflection on the book "Diversi ma Uguali" Giunti Kids

Fig. 3: Italian and English version of the "A World at the Table" song

Classi Multiculturali per comunità in pace

Autori Peluso AL con alunni 3G a.s. 2024-25 IC "Ferrajolo-Sauro" Acerra (NA) e Chat.GTP – Gemini – Copilot - Deep Seek – Suno-AI

[Intro]

La pace si costruisce giorno per giorno
Con rispetto e cultura tutto intorno

[Verse 1]

Le guerre non servono a nessuno
Il dialogo è la chiave per essere uno
La tecnologia ci può aiutare
Se la usiamo insieme per comunicare

[Verse 2]

Dalla storia antica fino a oggi
Ogni popolo porta le sue verità
Le ricette raccontano, la nostra identità
Nei convivi costruiamo libere comunità

[Chorus]

* Nelle nostre classi usi e culture diverse
* Creano un mosaico di storie diverse,
* I nostri cibi si mescolano insieme
* come note di brani di musica di insieme

[Post - Chorus]

* (Studiando geostoria e tecnologia abbiamo capito)
* (che con società in pace il mondo è pulito)

[Verse 3]

Da Acerra a Pechino tradizioni d'oro
Ogni cultura porta il suo tesoro
Dall'Albania al Brasile la cucina più di mille parole
Condividendo piatti sotto lo stesso sole

[Verse 4]

Dai Balcani all'Asia, un viaggio d'amore
Tutti insieme nessun dolore
In Serbia ćevapi, che bontà
Con ajvar e kajmak, tutti a gustar
In Ucraina i varenìki, una magia
Con patate o ciliegie, una leccornia

[Chorus]

*

[Post-Chorus]

*

[Bridge]

In Albania il burek, croccante e dorato
In Brasile il feijoada, un piatto prelibato
Dal Marocco el asida, antico sapore
E dranìki bielorussi, amici nel cuore
Dalla Cina i tangyuan, dolci e perfetti
Pizza di scarole, struffoli e confetti

[Outro]

Siamo il mondo, siamo inclusione
Ogni cultura, una lezione
Un piatto, un sorriso, un mondo che cambia
Parlando e integrandoci la vita ne guadagna

[Final Chorus]

Nelle nostre classi culture diverse
Creano un mosaico di storie diverse,
I nostri cibi si mescolano insieme
come note di brani di musica di insieme

[Final Outro]

Al banchetto globale, le risorse amministriamo
la Terra è il solo pianeta che noi amiamo

Multicultural Classes for Peaceful Communities

Authors: Peluso A.L. with students from class 3G, school year 2024–25
IC "Ferrajolo-Sauro" Acerra (NA) & ChatGPT – Gemini – Copilot – DeepSeek – Suno-AI

[Intro]
Peace is built day by day
With respect and culture
lighting the way

[Verse 1]
Wars bring no gain, they only destroy
Dialogue unites us, it brings us joy
Technology can lend us a hand
If we use it together to understand

[Verse 2]
From ancient times to the present day
Each people has something unique to say
Recipes tell of who we are
In shared meals, peace isn't far

[Chorus]

- In our classrooms, cultures intertwine
- A mosaic of stories, yours and mine
- Our foods blend like melodies true
- In songs performed by me and you

[Post-Chorus]
(By studying geohistory and technology too)
(We've learned that peace keeps the world bright and new)

[Verse 3]
From Acerra to Beijing, golden traditions
Each culture holds its own precious visions
From Albania to Brazil, cuisine says more
Than a thousand words ever said before
We share our dishes under the same sun
In harmony, together as one

[Verse 4]
From the Balkans to Asia, a journey of love
Together, no sorrow, just peace from above
In Serbia, ćevapi, what a delight!
With ajvar and kajmak, it feels so right
In Ukraine, vareniki, a magical taste
With potatoes or cherries, none go to waste

[Chorus]

- In our classrooms, cultures intertwine
- A mosaic of stories, yours and mine
- Our foods blend like melodies true
- In songs performed by me and you

[Post-Chorus]
(By studying geohistory and technology too)
(We've learned that peace keeps the world bright and new)

[Bridge]
In Albania, burek, crunchy and gold
In Brazil, feijoada, delicious and bold
From Morocco, el asida, ancient delight
And Belarusian dranki, hearts shining bright
From China, tangyuan, sweet and round
Escarole pizza, struffoli, joy all around

[Outro]
We are the world, we are inclusion
Each culture teaches with no illusion
A dish, a smile, the world starts to change
When we talk and unite, life's better arranged

[Final Chorus]
In our classrooms, cultures intertwine
A mosaic of stories, yours and mine
Our foods blend like melodies true
In songs performed by me and you

[Final Outro]
At the global table, we share and care
Earth is the only planet beyond compare

Fig. 4: Sheet music of the "A World at the Table" song converted by Klang.io

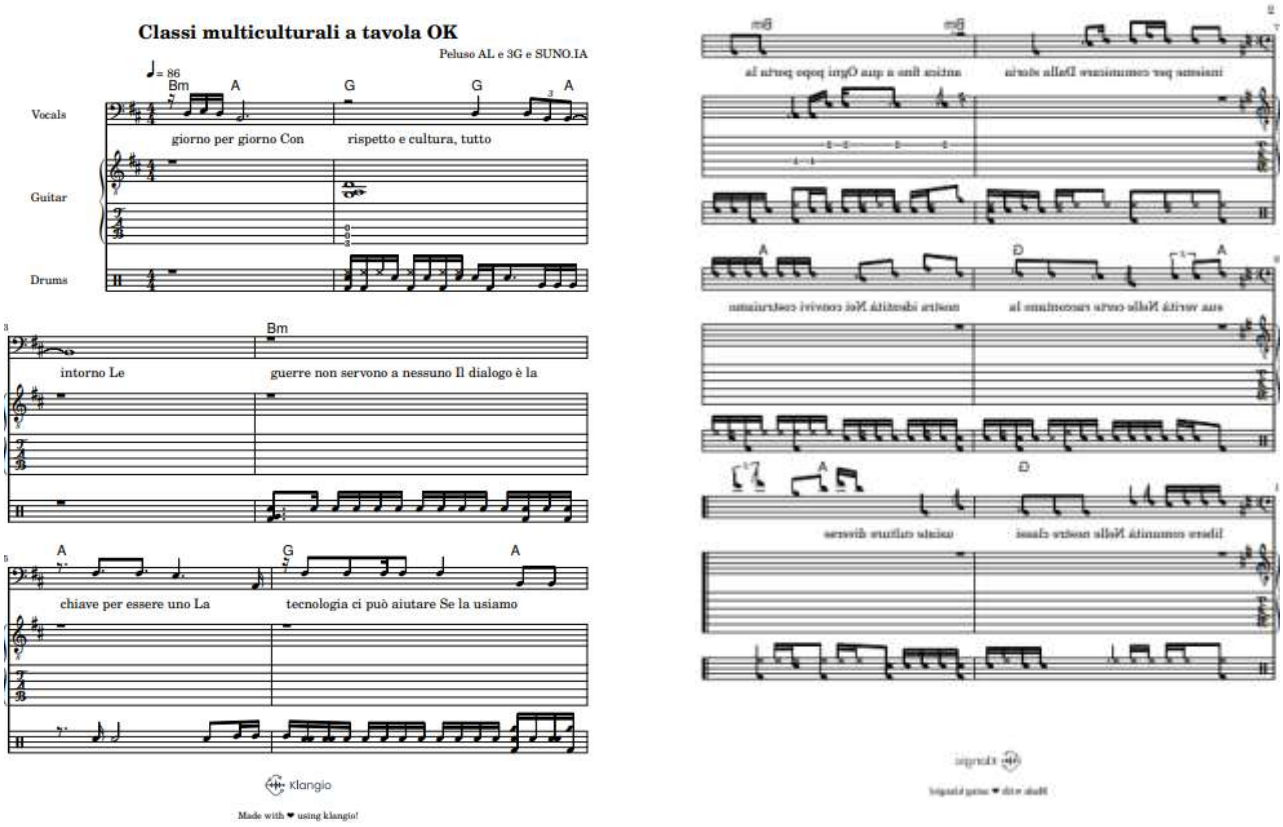

Fig. 5: 3D-models of the traditional dishes included in "A World at the Table" song and upload in Thinglink

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