

Symbiotic Classrooms in Practice:

Multidisciplinary and Intercultural Learning for Global Citizenship

Fabiana Proietti – Istituto Comprensivo Paolo e Larissa Pini, Milan, Italy

Glocal Education Conference 2025 – Yeosu, Republic of Korea

Theme: *Live Together, Learn Forward*

Session: *Case Studies of Symbiotic Classrooms and Directions for Future Education*

Abstract

This paper presents a transdisciplinary and intercultural educational experience carried out at *I.C.S. Paolo e Larissa Pini* (Milan, Italy), in collaboration with *Yongjeong Middle School* (Seoul, Republic of Korea) within the *eTwinning* framework. The project demonstrates how inclusive, cooperative, and digitally enhanced learning can foster intercultural understanding, ecological awareness, and global citizenship in secondary education.

Inspired by Freire's pedagogy of liberation (1970) and Morin's (1999) concept of complex thought, the classroom becomes a living ecosystem of peace, creativity, and shared meaning. The experience bridges disciplines such as language learning, science, technology, art, and civic education, embodying the principle that *to learn together is to build peace*.

1. Educational Vision and Inclusive Context

Located in a multicultural area of Milan, *I.C.S. Paolo e Larissa Pini* serves a diverse community of learners, including students from Arabic, Chinese, Filipino, and South American backgrounds. Following Banks (2008), identity and citizenship are understood here as dynamic and plural, developing through interaction and dialogue.

Inclusion is not conceived as a compensatory measure, but as an **ecosystemic culture** (Ianes, 2020) in which each learner's uniqueness contributes to the collective growth of the group. The school's mission aligns with OECD's (2025) *Learning Compass 2030*, emphasizing sustainability, digital fluency, and social equity.

Recent frameworks highlight the importance of **intersectional inclusion**, addressing linguistic, cultural, and neurodiverse dimensions simultaneously (UNESCO, 2024; Kimhi & Bar-Nir, 2025). Within this paradigm, the project promotes both academic achievement and emotional well-being through a holistic approach to teaching and learning.

2. Project Philosophy and Objectives

The project *Fostering Cultural Inclusivity and Literacy* builds on the principles of Glocal Education (Cha et al., 2017), combining local rootedness with global awareness. Its principles were presented at the Italian booth of the Glocal Education Fair 2024, where our school was invited alongside representatives from 21 countries.

Its objectives were to:

1. Encourage authentic multilingual communication through English as a lingua franca;
2. Promote intercultural dialogue and empathy between Italian and Korean students;
3. Integrate environmental inquiry with civic and ethical engagement;
4. Develop advanced digital, creative, and collaborative competences;
5. Strengthen students' autonomy, agency, and sense of belonging.

Rooted in Dewey's (1938) *learning by doing* and Deci & Ryan's (1985) *self-determination theory*, the project emphasized autonomy, competence, and relatedness as foundations of motivation and deep learning. UNESCO's (2024) framework for *Global Citizenship Education in a Digital Age* provided an ethical reference point for guiding technology-enhanced intercultural exchange.

3. Pedagogical Framework

The instructional design integrated well-established pedagogical models:

- **Project-Based Learning** (Blumenfeld et al., 1991), to promote inquiry and collaboration;
- **Cooperative Learning** (Johnson & Johnson, 1999), to foster interdependence and peer support;
- **Universal Design for Learning** (CAST, 2022), to ensure accessibility and flexibility;
- **Culturally Responsive Teaching** (Gay, 2018), to validate students' identities and experiences;
- **Digital Inclusion Practices** (Zou et al., 2025), to guarantee equitable access to learning technologies.

These frameworks were interpreted through Gardner's (1983) theory of *multiple intelligences* and Nussbaum's (2010) concept of *humanistic education*, ensuring that each learner could engage cognitively, emotionally, and ethically with the process.

4. The Learning Process: From Dialogue to Creation

4.1. Digital Exchange and Intercultural Dialogue

The initial phase focused on building bridges. Using *Google Workspace* and *eTwinning*, students engaged in synchronous and asynchronous exchanges with peers from Korea. They introduced themselves, shared traditions, and collaboratively produced bilingual videos presenting their schools and communities.

English functioned not as an evaluative tool, but as a *language of relation*—a medium for authentic expression and curiosity. As Cummins (2000) highlights, meaningful second-language interaction promotes both cognitive and intercultural growth.

4.2. Inquiry, Coding, and Knowledge Construction

In subsequent phases, students explored historical and cultural landmarks such as the *Tower of London*, *Puerta de Alcalá*, and *Duomo di Milano*. They conducted research, verified sources, and collaboratively developed digital narratives.

Coding and informatics skills were integrated through the creation of interactive maps using **StoryMapJS** and quiz applications.

In line with Papert's (1993) *constructionism*, learning occurred through the design of meaningful digital artifacts that embodied personal and collective understanding.

4.3. Environmental Science and Sustainability

Interdisciplinary inquiry extended to the sciences. Students investigated recycling practices, renewable energy, and air quality, designing small experiments and collecting real data from their local environment.

Following Kolb's (1984) experiential learning cycle, reflection and application transformed abstract notions into lived knowledge.

Dialogue with Korean peers revealed shared ecological concerns, echoing Louv's (2005) call for reconnection with nature and sustainability as a shared human responsibility.

4.4. Artistic Expression and Digital Storytelling

Art became the expressive synthesis of the entire journey. Through **Canva**, **Genially**, and video-editing tools, students transformed information into visual stories, integrating linguistic, scientific, and aesthetic dimensions.

Eisner (2002) reminds us that the arts provide a form of cognition distinct from logic—one that allows learners to *see and feel meaning*.

The final outputs included a *virtual exhibition* and a *multimedia e-book*, showcasing the creative and intercultural journey of the classes.

5. Outcomes and Reflections

The project led to measurable and qualitative growth: improved linguistic competence, increased digital fluency, deeper intercultural empathy, and enhanced environmental awareness.

Teachers reported higher engagement, collaborative spirit, and emotional regulation among students.

The classroom evolved into a **sybiotic microcosm**—an environment where inclusion, diversity, and digital co-agency generated collective intelligence and peace-oriented values.

As Morin (1999) observed, complexity is not chaos but connection; this project embodied that principle through every interdisciplinary and human interaction.

6. Evaluation and Dissemination

Assessment followed Wiggins' (1998) model of *authentic evaluation*, focusing on process, creativity, and reflection rather than rote performance.

Students maintained digital journals, provided peer feedback, and participated in formative self-assessment sessions.

The final artifacts—videos, maps, and the e-book—were shared via *Google Workspace* and *eTwinning*, ensuring transparency, replication, and open dissemination across the international network.

The entire project can be viewed through the following link.

<https://digipad.app/p/1146831/71a317a543e9>

7. Future Directions

Building on the success of this phase, future developments will:

- Expand **AI-assisted storytelling** and digital literacy (Springer, 2025);
- Deepen **inter-school collaboration** across Europe and Asia;
- Integrate **teacher professional development** on inclusive pedagogy (Kimhi & Bar-Nir, 2025);
- Strengthen the link between **local sustainability practices** and **global citizenship education**.

The long-term vision is to establish a network of *Glocal Classrooms*—locally rooted, globally connected spaces of creative coexistence.

8. Conclusion: Learning as Peacebuilding

Education, as Freire (1970) reminds us, is not a neutral act—it is either an instrument of domestication or a practice of freedom.

In the *Symbiotic Classroom*, peace was not simply discussed; it was enacted through communication, empathy, and co-creation.

By weaving together languages, disciplines, and cultures, students experienced coexistence as both a skill and a value.

Ultimately, this project reaffirms that **to learn together is to build peace**—one dialogue, one creation, one shared discovery at a time.

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