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BEYOND THE CLASSROOM NEW STRATEGIES FOR HYBRID, PARTICIPATORY AND INCLUSIVE TEACHING

Abstract

In the contemporary educational landscape, profoundly transformed by the advent of digital technologies, there is a need to develop teaching methodologies capable of effectively integrating traditional teaching with distance or blended learning approaches. Although the use of technology in education is not new, it is only in recent decades that its potential in redefining the learning experience and the educational relationship has been fully realised. The classical model, based on an asymmetrical relationship between teacher and learner, is evolving towards a more cooperative and symmetrical dynamic, mediated by technology. However, the real value of educational technology lies not so much in its use per se, but in the quality of its integration with effective teaching practices. Research shows that it is truly useful when it enhances the presentation of content, stimulates active interaction and supports formative assessment processes. In this changing context, pedagogy is called upon to reflect without prejudice in order to meet the challenges posed by education in the complex and stimulating society of the third millennium.

Kewywords: *artificial intelligence, human value, pedagogy of work, future competencies, subjectivity, automation*

Introduction

In today's educational context, which is rapidly changing thanks to new digital technologies (Tarantino, 2025), it is crucial to develop teaching methods that effectively combine traditional classroom teaching with distance or blended learning modes. This is not a new concept: studies on the use of technology in education began more than fifty years ago, but only in the last few decades have we seen how technologies can really make a difference in teaching, in the awareness of a learning that takes place through a networked approach and of an educational relationship that changes: the asymmetrical teacher/learner relationship becomes trilateral, the medium is inserted between them and a symmetrical and cooperative relationship is facilitated.

However, it is not only the use of technology that makes the difference, but above all how we use it. Indeed, it is not enough to have advanced technology to enhance learning, but it is crucial that it is complemented with appropriate teaching methodologies. Scientific research has shown that technology works

best when it is used to broaden the ways in which content is presented, to stimulate active student interaction and to foster assessment and self-assessment activities that are truly useful for their learning journey.

These are all aspects that represent an interesting evolution of the frontiers of education; frontiers that are certainly mobile, in the face of which pedagogical research, overcoming prejudicial forms, must question itself in order to respond adequately to the increasingly circumstantial questions of education in the society of the third millennium, increasingly complex but, without doubt, fascinating for the challenges, including pedagogical ones, to which it subjects us.

1. Integrated teaching between presence and online

In the context of e-learning, i.e. learning (Fiorini, 2025) that takes place online, it is essential to find a balance between two elements: on the one hand, the autonomy of the student, who can organise his or her study in a flexible manner; on the other hand, the presence and support of the teacher, who continues to play a guiding role.

This means that, even if students study independently, they must not be left alone. The teacher has the task of guiding the learning path, offering clear indications, stimuli and appropriate materials; he or she can also design learning contexts and situations in which the learner experiences discovery and becomes a facilitator of pathways and research processes. The design of learning environments becomes increasingly flexible and student-centred, and the logic according to which teaching is based solely on the transmission of content is overcome. It is important that teaching resources are not reduced to mere pre-packaged content – i.e. ready-made and standardised materials such as recorded video lectures or static handouts – but that they are enriched with dynamic, topical and engaging resources.

For example, the teacher can propose up-to-date articles, links to interactive videos, forum discussions, quizzes, case studies or collaborative activities that encourage interaction between students. This approach makes learning more

active and participative, transforming the virtual environment into a living space of confrontation and discovery.

It is important to remember that every learner is different and therefore needs personalised approaches; learning processes themselves are personalised and the learner is personally involved in the elaboration-construction of knowledge in an interactive way as Bruner argues. Emerging technologies not only offer new learning opportunities, but also foster the development of critical thinking and metacognitive skills, i.e. the ability to reflect on one's own learning process. Although technologies are a powerful tool, the teacher's role remains crucial in designing learning experiences (Di Benedetto; Grasso, 2024) that are truly effective and allow each student to learn at his or her own pace and needs.

In light of these considerations, the current educational scenario calls for a rethinking of teaching strategies, orienting them towards blended, dual or hybrid education. These methodological configurations respond effectively to the challenges posed by the knowledge society, offering learning opportunities that are personalised, flexible and in line with the needs of a generation of digital learners. As underlined by Bonaiuti et al. (2017), blended learning allows integrating the potential of digital technologies with the richness of in-presence interaction, promoting more inclusive and student-centred learning environments. In this perspective, the shift from a transmissive didactics to a more participatory and mediatised one also reflects the pedagogical instances of a constructivist approach to learning (Garrison & Vaughan, 2008), in which the co-construction of knowledge is facilitated by the spatial and temporal flexibility offered by digital platforms (Dipace, Arsena, Basta, 2024).

In today's increasingly complex and changing educational landscape, didactic models that combine different teaching modes (face-to-face and distance) are becoming essential to meet new learning challenges. Among these models, we find dual didactics, hybrid didactics and blended didactics, each of which has specific characteristics and advantages. According to Laurillard (2012), the integration of synchronous and asynchronous channels is able to support active, adaptive and reflective learning processes, fostering greater accessibility and educational continuity, especially in heterogeneous educational contexts. Although there is great fear among humanity that machines will take over the world and replace humans once consciousness is programmed into

them, this is nothing more than a fear of the unknown – a fear that has accompanied humankind since the beginning (Bukowski, Klonowska, 2024, 161). Moreover, the pandemic experience has highlighted how the transition to hybrid forms of teaching is not just an emergency response, but an opportunity to structurally innovate teaching-learning processes (Trentin, 2021).

– *DUAL TEACHING:*

In this model, there is a clear separation between face-to-face and online teaching. Students participating in the classroom lecture follow the teaching directly, while those participating online follow a separate lecture, often in asynchronous mode. This model can be useful when it is necessary for the two modes to remain completely distinct, but to be effective it requires an appropriate infrastructure, such as quality audio-visual devices, to ensure that the interaction between the two modes (presence and online) is smooth and clear. However, a cheaper version of this model can be realised using Internet-connected notebooks, which, while not offering the same quality, can still allow interaction between classroom and distance learners, albeit with some limitations. Moreover, teachers have to put a lot of effort into instructional design in order to manage these two separate modes well.

– **HYBRID EDUCATION:**

In this case, the face-to-face and online modes are integrated, but in a flexible manner. There is no rigid separation as in the dual model. Students can alternate between classroom and online participation according to their needs or preferences. For example, some lectures may take place in the classroom, while others may be attended online, with no rigid distinction. This model requires agile management of resources and content, and is easily adaptable to contexts where students may prefer or need more flexibility.

– *BLENDED LEARNING:*

This model is the most synergetic, as it seeks to maximise effectiveness by combining face-to-face and online modes in a balanced and coordinated manner. The idea is to exploit the strengths of both modes to provide an optimal learning experience. For example, a lesson could start online with

reading materials or videos, and then continue in the classroom with interactive discussions or hands-on activities. This model aims to create a continuous flow between the two modes, so that they support each other rather than being separate (Dipace, Arsena, Basta, 2024).

The choice between these models depends on various factors, such as students' needs, available resources and learning objectives. For example, if students need more physical support and face-to-face interactions, a blended model might be more appropriate, whereas if more autonomy and flexibility is sought, hybrid teaching might be more suitable.

For all these models, it is essential that teachers carefully plan the integration between the modes, and that there is adequate technological infrastructure. For example, in the dual model, the use of technologies such as video conferencing, e-learning platforms and interactive whiteboards can facilitate communication between classroom and distance learners. Furthermore, devices such as notebooks and tablets can offer sufficient support, albeit with some limitations compared to more advanced technologies (Dipace, Arsena, Basta, 2024).

In general, the main objective of these models is to enhance learning by adapting to the needs of individual students and making the best use of available technological resources, thus creating a more dynamic, interactive and flexible learning environment.

The use of interactive digital tools (Russo, 2024) such as Wordwall, Socrative, Wooclap, Kahoot! and Google and Microsoft Forms facilitates interaction between students and ensures a comparable learning experience for all.

Hybrid teaching became very important during the COVID-19 pandemic, as it led schools and universities to revise traditional teaching methods. This type of teaching is not limited to the physical space of the classroom, but combines live lectures (synchronous) and activities to be done at different times (asynchronous), combining individual study and group work.

In the beginning, the terms blended and hybrid were used as if they were the same thing. Today, however, a distinction is being made: blended learning is a well-structured model that alternates between face-to-face and online lessons in an organised manner, both in the way the entire course is designed

(macrodidactics) and in the individual activities and lessons (microdidactics) (Trentin & Bocconi, 2015).

This approach works well because it exploits the advantages of both modes – in-presence and online – and aims to improve student learning. For it to really work, however, it is important that there is good collaboration between teachers, tutors and all school staff to ensure effective learning experiences in every context.

The aim of these models is to create an inclusive and adaptable educational environment, capable of responding effectively to the needs of an increasingly connected and digitised society.

This model, which combines elements of traditional teaching with those of e-learning, promotes greater flexibility and personalisation of learning (Garrison, 1997, pp. 18-33). Its implementation requires the effective use of digital technologies to create an accessible and inclusive environment capable of supporting different learning styles and rhythms (Crescente, 2024).

The adoption of innovative teaching models requires in-depth reflection on educational strategies and the role of technologies in teaching. It is not only a matter of considering technological aspects, but also the pedagogical, psychological and social dynamics that influence the learning process. The didactics of the future (Ciasullo, 2025) must adopt a holistic approach, integrating all these elements to ensure an effective and inclusive learning experience for all students.

2. TEACHING STRATEGIES AND DIGITAL TECHNOLOGIES

COOPERATIVE LEARNING

Cooperative learning is an educational method based on students working together to achieve common goals. Based on the idea that learning is a social process, it involves the division of students into small, heterogeneous groups in which each member takes an active role and contributes to the collective success. Compared to traditional methodologies, cooperative learning fosters greater participation, the development of transversal skills and improved interpersonal relationships (Johnson, Johnson, Holubec, 1994).

Co-operative learning mediated by digital technologies represents an important innovation in the field of pedagogy, as it allows social interaction to be combined with the potential offered by digital tools to improve educational processes (Scardamalia, Bereiter, 2006). This approach, known as Computer Supported Cooperative Learning (CSCL), promotes more effective and inclusive learning through online collaboration and shared access to digital resources.

One of the main advantages of CSCL is the enhancement of academic success. Research and studies have shown that cooperative work facilitates the acquisition of deeper and more lasting knowledge than traditional methodologies, as it stimulates critical thinking and conceptual deepening through peer comparison (Johnson, Johnson, 2013, pp. 372-374). The integration of digital technologies in this context allows students to sharpen their ability to evaluate sources and develop a critical attitude in selecting information, which is crucial in the digital age (Bonaiuti, Dipace, 2021).

In addition to cognitive effects, technologically supported cooperative learning has a significant impact on social skills. Working in a cooperative digital environment strengthens communication and collaboration, promoting empathy and appreciation of different individual perspectives. The role of the teacher, in this scenario, is transformed: from a transmitter of knowledge to a facilitator of learning, he or she structures activities, establishes operational rules and manages relational dynamics to ensure effective interaction (Cardoso, 2003).

Another key element of CSCL is positive interdependence, whereby each student plays an essential role in achieving common goals (Dipace, Arsena, Basta, 2024). Individual responsibility and equal participation encourage continuous and meaningful interaction, while digital platforms such as Google Classroom, Microsoft Teams and Edmodo facilitate cooperation in presence and at a distance (Garavaglia, Petti, 2022). The conscious use of technology amplifies the potential of collaboration and enriches the overall learning experience (Salmon, 2013).

The opportunities offered by digital technologies in cooperative learning are manifold: from collaborative writing to the realisation of multimedia projects and participation in webinars and discussion forums. An emblematic example of this evolution is represented by e-tivities, online activities designed to stimulate self-learning and collaboration among students,

such as synthesis exercises, discussions on disciplinary content and interactive simulations (Salmon, 2013).

The integration of technology in cooperative learning also has organisational implications: the effective management of time and space is essential for the success of the activities. In the classroom, group work requires an initial adaptation phase, whereas in digital environments the focus is on negotiation and collaborative problem solving. The creation of structured learning environments, both physical and virtual, improves the effectiveness of student interactions (Garavaglia, Petti, 2022). The integration of digital technologies and cooperative strategies opens up new perspectives for pedagogical innovation (Gori, 2025), transforming digital tools into facilitators of collaborative learning and adapting didactics to the needs of contemporary society.

Flipped Classroom

The flipped classroom, or flipped classroom, represents an innovative teaching model that overturns the traditional teaching sequence. In this approach, the theoretical exposure phase takes place at home, through video lectures and digital materials, while classroom time is dedicated to practical, collaborative and laboratory activities (Bergmann, Sams, 2012). The teacher no longer plays the role of the sole transmitter of knowledge, but assumes the function of facilitator, orchestrating the learning process and guiding students in the active construction of competences.

One of the key elements of the flipped classroom (Moore; Craciun, 2024) is the use of digital tools to deliver content asynchronously. Students can access learning materials at their own pace, reviewing concepts several times if necessary. This allows for personalised learning (Pensa, Spagnuolo, 2025) by reducing difficulties related to different speed of assimilation of content (Lo, Hew, Chen, 2017, pp. 50-73). In the classroom, on the other hand, the focus shifts to interactive activities, such as discussions, practical exercises and experiments, which foster active learning and participation.

The flipped classroom model consists of three main phases:
1. Preparatory phase (in class): the teacher introduces the topic, provides the theoretical context and assigns materials to be viewed at home.

2. Operational phase (at home): students study autonomously, analyse the content and prepare materials or reflections to bring to class.
3. Application and reflection phase (in class): students participate in collaborative activities, while the teacher monitors, deepens and encourages critical reflection on the content learned.

This teaching method fits effectively into the context of technology-enhanced learning, exploiting digital platforms such as Microsoft Teams or Google Classroom to facilitate group work and the creation of learning artefacts. The students, organised in subgroups, develop interactive materials, which are then shared and discussed during debriefing and discussion sessions.

The implementation of the flipped classroom brings significant benefits, including greater personalisation of learning, increased motivation and improved student autonomy. However, it also presents some challenges, such as the need to ensure that students actually use the materials assigned at home. In addition, the teacher must possess high organisational and teaching skills (Siani; Pizzolato, 2025) to effectively structure activities, select the most appropriate digital content and manage classroom time productively.

Recent studies have highlighted the effectiveness of the flipped classroom in STEM fields, where the integration of theory and practice is particularly functional (Lo, Hew, Chen, 2017). However, this model has also proved effective in the humanities and social sciences, encouraging critical discussion and in-depth content analysis (Hwang, Lai, 2017).

The flipped approach can be further enhanced through the use of gamification and adaptive learning, elements that increase student engagement (Alizadeh, 2024) and enhance the personalisation of the learning pathway. In some contexts, the use of augmented reality (Perroni, 2025) and virtual reality has also been experimented with to enrich the learning experience, making lessons more immersive and challenging (Chiou, Tseng, 2021).

In summary, the flipped classroom is an innovative and highly adaptable teaching methodology that meets the needs of modern learning. It emphasises interaction, problem-solving and critical thinking, transforming the traditional lesson into a dynamic and engaging experience.

Microlearning

Microlearning emerges as an innovative and adaptable teaching method that is particularly effective. It literally means learning in micro format. The main characteristic of this approach is the *shattering* of knowledge, creating autonomous, short and concentrated portions of content, designed to provide specific and easily assimilated information.

The main objective of this type of learning is to provide quick and targeted training, exploiting the tendency to prefer concise and easy-to-consume information, adapting to learners' attention and learning capacities. According to recent studies, Microlearning improves memorisation capacity and allows learners to consume content at their own pace.

It is particularly suitable for those who wish to have immediate access to information presented in small fragments, improving memory and knowledge consolidation. It can be used for all content and disciplines and is suitable for learners of all ages, as it is a fast methodology that aims to fix essential information in a stable, quick and flexible way (Dipace, Arsena, Basta, 2024).

Microlearning design certainly brings advantages both from the point of view of the content creator and the user. They in fact:
- They require short learning times;
- They are perfectly suitable for use on mobile devices;
- They can be combined and recombined like bricks to create tailor-made paths;
- They allow constant and gradual training that takes into account the learner's progress;
- They improve memorisation capacity.

The structure of Microlearning is based on three fundamental principles:
- Brevity and flexibility: it is designed to be consumed *on the go*, i.e. content is short, often not exceeding 3-5 minutes, and is optimised for use on mobile devices. Brevity is not a limitation but a strength, allowing for greater flexibility and immediate practical application of the acquired knowledge.

–   Granularity: each unit is self-paced, allowing learners to select and consume only the content they need, when they need it. This aspect makes Microlearning an excellent tool for reviewing and reinforcing specific concepts.
–   Variety: content can be presented in various formats, including short videos, quizzes, infographics, games and podcasts, to keep students' interest high and support different learning styles.

Microlearning can be effectively integrated into a broader curriculum, linking small learning units to larger learning objectives. Each microlearning *pill*, in fact, contributes to a larger lesson (meso) and, ultimately, to an entire educational pathway (macro), through three aggregation models: multicomponent model (linear, sequential structure), aggregation model (aggregation of micro-elements combined to form sets), conglomerate model (each micro-object is categorised and organised systematically).

Interesting is the integration of microlearning with gamification and adaptive learning, where the playful element and personalisation of learning play a key role. This combination not only makes learning more engaging but also more effective, adapting to the individual needs and interests of learners. In this way, Microlearning represents a flexible and practice-oriented approach that effectively meets the needs of modern learning, where brevity, accessibility and personalisation are crucial (Dipace, Arsena, Basta, 2024). It is perfectly suited to online education, offering students the opportunity to learn in an agile and direct way, with short-term objectives that support long-term goals, in a context that emphasises autonomy and learning effectiveness.

Playful strategies

Using play in education represents an important change from traditional methods. Exploiting the natural inclination to play helps to increase students' interest and participation (Gee, 2003). Activities that include playful elements – such as challenges, goals to achieve or rewards – make learning more engaging and stimulate not only motivation, but also creativity and critical thinking (Anderson et al., 2018).

One of the most popular strategies is gamification, which consists of incorporating game mechanics (points, badges, rankings) into traditional educational contexts. This approach makes learning more active and fun, helping students to stay motivated and engage more (Deterding et al., 2011). With gamification, even difficult or uninspiring topics can become more accessible, turning into rewarding challenges.

Next to gamification we find playful learning, which does not merely add game elements, but proposes a deeper change in the way of teaching and learning (Ciaravolo, Montanari, 2024). In this model, students are encouraged to explore, experiment and play freely. Learning thus becomes a creative and inquisitive experience that stems from the pleasure of discovery (Resnick, 2017).

Another interesting approach is game-based learning (GBL), which uses real games – digital or analogue – designed with specific learning objectives. Unlike gamification (Moldez, Crisanto, Cerdeña, Maranan, Figueroa, 2024), here it is the game itself that is the main medium for learning. This method encourages active participation and deep learning through mean-ingful experiences (Prensky, 2001).

In general, play didactics has proven to be effective in stimulating active learning. Research in the field of cognitive neuroscience shows that posi-tive emotions, motivation and interaction are crucial for sustained learn-ing (Immordino-Yang & Damasio, 2007). Gaming environments help to develop concentration, creativity and critical thinking, especially when students have to solve problems or face complex challenges.

In addition, digital technologies offer new opportunities to create playful and interactive environments that transcend the limitations of face-to-face lessons, fostering more active and inclusive participation (Mishra & Koehler, 2006).

3. Concluding remarks

The innovative teaching methodologies analysed – from cooperative learning to microlearning, from the flipped classroom to playful strategies – show how the digital transformation of education does not only imply the adoption of new technologies, but requires an overall rethinking of teaching and learning processes. The conscious and pedagogically grounded integration of digital tools, in fact, makes it possible to promote a more active, participative and personalised learning, which enhances the collaborative dimension and student autonomy.

All these strategies, although different, share a common vision: to place the student at the centre of the educational experience, fostering the development of cognitive, social and emotional skills in a dynamic and inclusive learning environment. In an era characterised by rapid change and complex challenges, such approaches represent not only an effective response to contemporary educational needs, but also a fundamental resource for building a school capable of forming conscious, critical and creative citizens.

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