UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Technologies for Teaching and Learning - 1 (blended)

2425-3-G8501R019-T1

Course title

Educational Technology

Topics and course structure

The course aims to
to investigate how, in what ways and with what methodologies digital technologies and the Web have progressively spread in the educational systems of developed countries and have radically changed the way of teaching, and learning. At the EU level, in fact, a framework DigiCompEdu has been defined, namely a framework of digital competencies for education that all teachers in the union must possess. Pademia and DAD have had a twofold effect on this process of digitizing Italian schools. On the one hand, they have accelerated it; on the other, they have highlighted how our education system is not yet ready for full integration of school-based thimble. In fact, both the infrastructure (band devices) and adequate medodological training of teachers are lacking. The course aims to provide female students with this training. To fulfill this task, the lessons will follow the guidance contained in the [National Digital School Plan](https://www.miur.gov.it/scuola-digitale, 2015), and the guidance contained in Mission 4 - School and Research of the [National Recovery and Resilience Plan] https://www.governo.it/sites/governo.it/files/PNRR.pdf) as well as that of , within it, the School Plan 4. 0, aim to bridge this metedological and educational gap and insist on the need for schools to use the new languages of digital to "augment" learning and make children and teachers aware of the potential and cricricricities involved in this process.

More specifically, the following topics will be addressed (cf. Laurillard, 2012; Mishra & Koehler, 2006):

Educational technologies: an introduction

What role do technologies play in teaching and learning?
What competencies do they require of teachers and students?

The history of learning technologies, the information society, and the main theories underpinning them

An overview of the evolution of educational tools, with a focus on how they have shaped (and been shaped by) broader societal changes (cf. Bates, 2019).
The theoretical frameworks that have influenced and explained the integration of technology in education (e.g., constructivism, connectivism).
The evolution of the classroom in a digital sense

What can be achieved using the various platforms available today?
How can technology foster an ongoing dialogue with students, enhancing interaction and engagement?
Multimedia content production

How can one create content that is both high-quality and engaging?
How can digital tools be employed to tell stories, support deeper comprehension, and reduce distractions (cf. Mayer, 2009)?
Case studies and experiences

Practical examples and empirical evidence illustrating the use of digital technologies in education.

Objectives

By participating in the course, students will develop:

- the ability to understand how the informational revolution implies radical changes in the world of education as well, with regarsd to the Italian regulatory context specifically to the Piano Nanziole Scuola Digitale and to the Piano Nazionale di ripresa e resilienza;

- the ability to understand how digital technologies are transforming the way "digital natives" or the Z generation children learn, both in informal contexts and in infancy and primary schooling;

- the ability to understand and know the theories, methodologies and practices of "digitally augmented education," with particular reference to the European Digicomp.edu framework to the ways in which School Plan 4.0 is being implemented;

- the ability to design the different physical and digital settings that enable "digitally augmented" teaching, again with reference to the EU framenwork Digicomp.edu School 4.0 plan.

A. KNOWLEDGE AND UNDERSTANDING
Knowledge of school legislation as it pertains to organizational and curricular aspects linked to educational technologies.
Understanding of the main elements and issues related to teaching practices from a technology-enabled education perspective.
Familiarity with digital technologies and IT tools and an awareness of their role in managing teaching practices.

B. APPLICATION SKILLS
Ability to create a welcoming, technology-rich environment that fosters children’s development, taking into account their individual, family, sociocultural, linguistic, religious, and gender diversity, as well as their different learning styles.
Capacity to use essential theoretical frameworks to understand the dimensions and variables implicit in the teaching–learning process through digital technologies.
Skills to design and implement educational pathways that employ a variety of methodologies and organizational

solutions, utilizing diverse teaching tools and computer technologies.
Competence to develop research projects in educational and instructional contexts in order to improve professional practice.
Ability to establish and maintain communication and collaboration with families and other organizations to support students' developmental processes.
Reflection on professional practice, critically identifying and analyzing the intervention models adopted.
Capability to plan special methodological and instructional interventions tailored to students' profiles and needs, including the use of digital tools.
Proficiency in promoting active digital citizenship skills through pedagogical-didactic approaches and disciplinary knowledge.

C. AUTONOMY OF JUDGMENT
Awareness of the ethical and cultural responsibility entailed by the use of technologies in teaching, and assumption of the consequent duties toward students, their families, the school institution, and the broader community.
Aptitude for reading and interpreting the needs and behaviors of preschool and primary school children in contemporary social contexts characterized by extensive use of digital technologies.
Ability to problematize educational situations and events related to the use of digital technologies, analyze them thoroughly, and develop them reflectively.
Openness to considering alternative solutions to problems and making decisions that respond to the educational needs of students regarding learning technologies.
Readiness to renew teaching practices through a commitment to research, experimentation, and technological innovation.
D. COMMUNICATION SKILLS

Ability to maintain positive relationships with students' families, demonstrating openness and genuine interest in dialogue, adopting a humanistic-affective approach to digital communication—particularly important for families of different ethnic, cultural, or religious backgrounds.
Proficiency in using digital communication tools in school contexts, both to enhance the use of educational technologies and to reduce the gap between the formal language of academic knowledge and the informal forms of communication used by younger generations.

E. LEARNING SKILLS
Interest in the teaching profession and a desire to enhance one's knowledge and use of educational technologies.
Willingness to expand foundational psycho-pedagogical and methodological-didactic knowledge, in line with scientific advances in the field of digital technologies.
Motivation to delve into the content and methods of school subjects, with ongoing updates to disciplinary repertoires.
Openness to exploring perspectives in didactic, methodological, technological, and media research conducted nationally and internationally.
Readiness to self-sustain and self-regulate one's own learning through independent bibliographic research and active participation in opportunities for professional development and further training.

Methodologies

This course is delivered according to the blended-learning methodology. The course will provide a continuum of classroom and online activities and will be divided into units, in turn, consisting of one presential lecture per week, materials, video lectures and presentations available online, and an exercise (optional) to be carried out with the support of the online tutor.
In 50% of the sessions, an expository teaching approach will be adopted. In the remaining 50%, the teaching will be interactive, involving exercises, case studies, discussions, etc.. It is recommended that participants bring a personal digital device to class

Online and offline teaching materials

Slides, examples of digital educational materials in various formats, interactive content, video demonstrations of software usage, and in-depth articles on a range of topics. The Blended Learning Course is on-line in the University VLE.

Programme and references

Exam Program and Required Texts

Since this is a blended-learning course, the exam program requires all students to do a project work that complements the content and activities developed in the classroom with a field experience.

The texts that must be prepared for the exam are:

P. Ferri, S. Moriggi, (2023), A scuola con le tecnologie. Insegnare e appredendere nel digitale (edizione aggiornata), Mondadori, Milano. Parte 1 La società informazionale e la fine del masse media. Capitolo 1, 2, 3.

Piano Scuola 4.0 - Futura (available within the Course website), pages 1 to 28.

It will also be possible to take a midterm written exam, which will mainly cover the topics from the texts listed above. The result of this exam, if taken, will also be taken into account during the final examination.

-and only those who do not do the project work and the midterm written exams must study one of your choice of these texts:

Bolter, J. D., Grusin, R., (2003). Remediation. Competizione e integrazione tra media vecchi e nuovi, Guerini e Associati Milano

P. Wallace (2017), La Psicologia di Internet, (a cura di Paolo Ferri e Stefano Moriggi), Edizioni Raffaello Cortina, Milano

P. Ferri, *Nativi digitali*, Bruno Mondadori, 2012

Assessment methods

The evaluation of the Blended course is divided into three items

- The final exam: oral exam
- Voting attributed by the tutors of the projects or exercises, and to the midterm carried out (for those who choose them)

In order to ensure a transparent assessment, the following criteria—adopted and shared with the students—will be used for evaluating the exam, both the midterm written test and the oral exam:

Knowledge and ability to conceptualize, understand, and make connections among texts
Expository and argumentative skills
Ability to apply knowledge to the understanding and analysis of observed and documented cases/examples/practices
Ability to critically reflect on the themes and issues posed by technologies in the educational field"

Office hours

on appointment

Programme validity

The program is valid for two years

Course tutors and assistants

Isabella Quatera, Anna Maria Nicololi Nicola Cavalli

Sustainable Development Goals

QUALITY EDUCATION | REDUCED INEQUALITIES