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The 7th International Conference on Higher Education Learning Methodologies and Technologies Online (HELMeTO 2025) highlights the growing interest in merging learning methods with educational technology. This year's event once again embraced a cross-disciplinary approach, bringing together researchers, educators, and practitioners from various fields to explore innovative solutions for the future of higher education. HELMeTO has evolved significantly, marking its fourth year as a full-scale conference after starting as a workshop. Its growth has been impressive, attracting 143 submissions from more than 325 authors in 18 countries, including Italy, Brazil, Morocco, Ukraine, the United Kingdom, Hungary, Nigeria, Croatia, France, Germany, Latvia, Canada, Denmark, India, Slovenia, Spain, Sweden and the United Arab Emirates. This broad international participation showcases the conference's crucial role as a hub for exchanging ideas and best practices in online learning.

Hosted by the University of Napoli, the 2025 edition offered a rich programme. The event featured dozens of high-quality contributions, organized into seven special tracks and two general tracks. Presentations and discussions explored the complex link between technology and teaching, focussing on both established topics and emerging trends like artificial intelligence, augmented and virtual reality, learning analytics, and big data analytics in education. This volume aims to capture the depth and variety of research presented, serving as a valuable resource for academics and professionals interested in the current and future state of education. The contributions reflect the international landscape of online education and provide insights into the ongoing transformations in higher education driven by the combination of teaching methods and technology. This editorial is designed to help readers navigate the different tracks and find research that aligns with their interests, fostering further collaboration within the HELMeTO community. Note that this editorial provides a high-level overview of the main themes covered in the conference tracks rather than a detailed review of each individual paper.

The conference's main tracks are General Track 1 (GT1), focussing on "Online Pedagogy and Learning Methodologies," and General Track 2 (GT2), on "Learning Technologies, Data Analytics, and Educational Big Data Mining." GT1 centres on the strategies and practices for effective teaching and learning in digital environments, exploring how traditional pedagogical approaches can be adapted for online platforms using various digital tools. Meanwhile, GT2 investigates how learning technologies, data analytics, and large-scale data are transforming education by enhancing teaching, learning, and decision-making processes.

Special Track 1, "Rethinking Education: The Opportunities and Challenges of Artificial Intelligence," addresses the profound impact of AI on learning environments. This track promotes a critical dialogue on how AI can be leveraged to revolutionize education through personalized learning, intelligent tutoring systems, and automated feedback. It also tackles essential challenges, from ethical considerations and potential algorithmic bias to data privacy and the changing

role of educators in an AI-powered classroom. Ultimately, this track showcases innovative applications, highlights the need for robust teacher training, and discusses the future of responsible AI implementation to create more equitable and effective educational experiences.

Special Track 2, "Formative Assessment in Higher Education: Conceptual Framework," focuses on the pivotal role of formative assessment in improving student learning. This track fosters academic dialogue on the conceptual and practical dimensions of continuous feedback, exploring its integration with summative strategies and its impact on instructional practices. It highlights how digital tools and learning analytics can enhance these processes across various learning environments, from traditional to hybrid and distance education. The track also considers the diverse cultural and contextual factors that shape effective assessment, offering valuable case studies and best practices from various disciplines.

Special Track 3, "AI-enhanced E-learning for 'Augmented' Mathematics Education at University Level," explores the integration of artificial intelligence into university-level mathematics education. This track examines how AI-based platforms, intelligent tutoring systems, and automated feedback technologies can be combined with traditional teaching methods to create innovative hybrid learning environments. It invites a discussion on the synergies between concrete and digital resources and the design of effective e-learning strategies for mathematics.

Special Track 4, "The Art of Learning Online: Creative Practices in Digital Higher Education" explores how art can be integrated into digital higher education to make online learning more engaging and human-centered. It focuses on using artistic practices, like visual arts, music, creative writing, and performance, not just as content but as pedagogical methods. The goal is to move beyond standardized, technical online education by investigating how aesthetics, storytelling, and improvisation can foster deeper connection, critical thinking, and collaboration. The track welcomes various contributions, from theoretical papers to case studies, examining how art can be a tool for creating inclusive, relational, and participatory online learning environments. It seeks to answer if and how art can generate new and effective pedagogical methodologies for distance education.

Special Track 5, "AI in Higher Education: Empowering Design, Critical Thinking, and Reflective Learning", focuses on integrating AI into higher education to enhance instructional design, critical thinking, and reflective learning. It aims to contribute to the global discourse on using AI to develop effective, inclusive, and adaptable educational practices. The research emphasizes AI's role in fostering metacognitive skills, self-regulation, and learner autonomy. It explores AI in three complementary dimensions: as a design partner for educators, a critical friend that provides constructive feedback to students, and a participant in group work to stimulate critical thinking and comparative analysis. The track

welcomes empirical, theoretical, and review-based contributions on these topics.

Special track 6, "UDL and AI in Higher Education and in Pre Service Teacher Education: strategies, experiences, and perspectives for inclusive innovation" examines the intersection of Universal Design for Learning (UDL) and Artificial Intelligence (AI) to create more inclusive higher education. It focuses on how UDL principles, enhanced by AI, can improve accessibility, participation, and success for all students in digital, distance, and blended learning environments. The track serves as a forum for educators, researchers, and policymakers to share experiences and research on implementing these strategies. A key focus is on pre-service teacher education, exploring how AI can be used to train future educators in inclusive practices. The goal is to foster a university culture that values equity, innovation, and diversity through technology.

Finally, Special Track 7, titled "Human rights-based approach and practices for preventing and countering online hate speech: digital strategies and educational challenges in Higher Education", explores how higher education can use digital strategies and technologies to prevent and counter online hate speech. It addresses the ethical and practical concerns of using AI and other digital tools, focusing on building inclusive and critically aware learning environments. The aim is to leverage technology and pedagogical approaches, alongside legal and ethical frameworks, to foster digital literacy and civic engagement. The track welcomes contributions on anti-hate strategies, human rights-based education, and the role of online learning and media literacy in combating toxic narratives, encouraging a multidisciplinary approach in cooperation with various stakeholders.

In conclusion, the 7th International Conference on Higher Education Learning Methodologies and Technologies Online underscores the evolving relationship between pedagogy and technology while stressing the value of inter-disciplinary collaboration. With tracks dedicated to themes such as Artificial Intelligence, assessment in higher education, reflective learning, inclusion, and innovative teaching, the conference offers a platform for meaningful exchange. The seven selected special tracks foster exploration of emerging research and practical applications, highlighting how diverse disciplines can converge to shape the future of learning. By engaging with both established and cutting-edge trends, HELMeTO 2025 delivers critical insights into the ongoing transformation of higher education.

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Digital skills for inclusion: research with teachers in training

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1 Introduction

Creating inclusive environments is a priority in education to implement accessible and equitable teaching. It is also a fundamental objective for teachers, who must design learning experiences that enhance everyone's potential. Inclusion goes beyond responding to special educational needs; it is a pedagogical approach that values diversity, promotes active participation, and supports the educational success of all students [1]. Digital teaching methodologies are playing an increasingly central role in this scenario by offering tools and strategies that personalize learning, facilitate access to content, and stimulate peer collaboration [2,3]. Integrating technology into teaching is not merely an instrumental innovation but a structural element of educational design that can redefine educational practices to be more equitable, flexible, and student-centered. The growing complexity and diversity of classrooms require teachers to transform their practices profoundly, focusing on equity, accessibility, and valuing differences. From this perspective, inclusive environments cannot be created through compensatory or specialized interventions alone; they must be designed to be universally accessible to promote meaningful learning for all. The Universal Design for Learning (UDL) framework, developed by CAST (Center for Applied Special Technology), offers a well-established theoretical and methodological foundation based on three core principles: providing multiple modes of engagement, content representation, and expression/learning. The evolution of digital technologies, particularly the emergence of generative and predictive artificial intelligence, opens up new possibilities for personalizing learning paths, monitoring progress, automatically producing adaptive materials, and analyzing educational needs [4]. However, integrating these tools into academia requires critical pedagogical skills, ethical reflection, and awareness of their impact on inclusion.

2 Research

The research is part of the Special Education course in teacher training programs. A sample of 194 trainee teachers was divided between the humanities (85 participants) and science (109 participants). The aim was to explore teachers' representations and experiences of building inclusive contexts through the use of digital methodologies [5] Data were collected via a specially designed questionnaire shared on the Qualtrics platform to gather perceptions, experiences, and training needs regarding the use of

educational technologies for inclusion. The qualitative, phenomenological hermeneutic methodological design, inspired by the work of Max van Manen (2007), allows for the investigation of lived experience and its meaning through the subjective interpretation of the participants. The narrative texts collected were analyzed using NVivo software, which allowed us to systematize reflections, identify recurring themes, and construct a conceptual map based on the core categories that emerged [6,7].

3 Conclusion and Results

The analysis revealed that digital teaching methodologies are perceived by teachers as an effective means of promoting inclusiveness in school settings. The results suggest that adopting such methodologies, guided by sound pedagogical reflection and accompanied by adequate training, can substantially contribute to creating equitable, motivating, and inclusive learning environments. Consequently, technology not only enhances teaching effectiveness, but also becomes a true pedagogical mediator capable of transforming educational practices and promoting a school that is attentive to students' individual needs while fostering an inclusive and participatory educational community.

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