

Using Technology for Inclusive Education: A Systematic Review

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1 Background and research question

Higher Education (HE) for a great number of individuals represents the step immediately preceding their entry into the labor market. It is a crucial educational passage, marked by the acquisition of knowledge and skills that will permanently define the professionalism of many, as well as their cultural horizon. Taking the Italian case as an example, moreover, the statistics speak clearly: among those with only an elementary school license, high school diploma holders and college graduates (aged 15-89), it is the latter who have the highest rate of employability (ISTAT, 2023). Making HE environments and content as accessible and inclusive as possible, therefore, offers the possibility for more individuals to access the world of work and achieve personal fulfillment.

Table 1. Rates of employability in Italy (data extracted on 19th Sept. 2023).

Qualification	2022	2023 (1st trimester)	2023 (2nd trimester)
none, elementary and middle school license	28.3	32.5	33.4
high school diploma	57.5	60.5	61.3
graduate, post-graduate	72.5	77.2	77.2

Certainly, among the main trajectories on which research in HE is moving is the ongoing effort in identifying strategies to ensure the quality of teaching, which can be defined by taking into consideration several parameters (Welzant et al., 2011), including purposefulness, performativity, transformativeness and reliability, in addition to the important aspect of support services for students, who at present cannot neglect the integration of technology into the structure of HE pathways. Inclusive teaching practices have gained significant attention in education, with the increasing use of technology (Cranmer & Lewin, 2022; Passey, 2013), by providing opportunities to cater to the diverse needs of learners. This systematic review aims to investigate the role and impact of new technological tools in supporting inclusive

teaching practices. It explores the reflections, best practices, and experiences related to innovative teaching methodologies.

2 Methods and results

A systematic search was conducted in Scopus, Emerald Insight, ERIC, and Google Scholar for articles published from 2013 to July 2023, following PRISMA guidelines (Page et al., 2020). A total of 32 studies were included in the systematic review. The review highlights several technological instruments employed to support inclusive teaching practices, such as Assistive Technology (Atanga et al., 2019; Kisanga & Kisanga, 2020; McNicholl et al., 2020), Augmented or Virtual Reality (Bacca et al., 2018; Bridges et al., 2020), Artificial Intelligence and Machine Learning (DeRocchis et al., 2018; Guo et al., 2019), Universal Design for Learning Softwares and Learning Management Systems (Flood & Banks, 2021; Garrad & Nolan, 2022) and Gamification and Educational Games (Jin et al., 2018). It reveals the positive impact of assistive technology on students with disabilities, the effectiveness of augmented reality and virtual reality in creating immersive learning experiences, the potential of artificial intelligence and machine learning in personalizing learning, the benefits of Universal Design for Learning (UDL) in promoting inclusive content delivery, and the success of gamification in enhancing student engagement.

3 Conclusion

The findings underscore the potential of new technological tools to foster inclusive teaching practices. By personalizing learning experiences, ensuring inclusive content delivery, providing faculty training, and strategically incorporating technological instruments, educators can create equitable and engaging learning environments (Toto & Limone, 2020; Toto & Limone, 2023). These insights pave the way for advancing inclusive teaching and promoting positive student outcomes in diverse educational settings.

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