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Learning to Design, Designing to Care: High School Students Co-Designing AI for Disability Inclusion

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Abstract: The rapid integration of AI into education raises important questions about equity, accessibility, and the inclusion of learners with disabilities. While international policy frameworks emphasize fairness and human agency, the voices of young people themselves remain largely absent from these debates. This paper presents the design of a participatory workshop with Italian upper secondary school students, situated within the national *Percorsi per le Competenze Trasversali e l'Orientamento* (PCTO) framework, which links education to professional training. Students aged sixteen to eighteen, will engage in an eleven-hour program combining interactive lectures, role-based activities, and collaborative prototyping. Working in small groups, participants will design speculative AI tools intended to support peers with diverse educational needs, including visual, auditory, cognitive, and linguistic differences. The workshop explicitly incorporates materials authored by people with disabilities and creates opportunities for students with disability, if present, to contribute directly. The project is expected to foster empathy, perspective-taking, and critical AI literacy – measured pre- and post-intervention – while producing speculative design artifacts that highlight ethical and pedagogical considerations. By treating AI as a socio-technical system rather than a neutral tool, the study aims to demonstrate how participatory design can be used to cultivate inclusive values and democratize conversations about educational technologies.

Keywords: participatory design; artificial intelligence in education; inclusive pedagogy; empathy; disability awareness.

1. Introduction

The introduction of Artificial Intelligence (AI) into educational systems represents a far-reaching socio-technical transformation, capable of reshaping pedagogical paradigms, teaching practices, and assessment processes (Panciroli et al., 2020). International literature highlights that AI in education has become an increasingly prominent and rapidly evolving field within Educational Technology research (Panciroli et al., 2020; Baker & Smith, 2019; Hinojo-Lucena, Aznar-Díaz, Cáceres-Reche, & Romero-Rodríguez, 2019; Luckin, Holmes, Griffiths, & Forcier, 2016; Pedró et al., 2019).

AI should not be conceived merely as an assemblage of tools, but rather as a "complex ecosystem" grounded in algorithmic, adaptive, and predictive processes that are redefining the ways in which we learn, teach, and interact with knowledge (Educause, 2019; Zawacki-Richter, Marín, Bond, & Gouverneur, 2019). This technological expansion calls for a critical reflection on the epistemological, ethical, and relational dimensions of education, foregrounding questions of equity, transparency, participation, and cognitive justice. Although AI holds great promise for personalization and data-driven decision-making (Panciroli et al., 2020), it simultaneously poses significant risks of opacity, bias, and the reproduction of inequalities whenever datasets and design assumptions fail to capture the plurality of human functioning (Dignum, 2021; Selwyn, 2023).

The increasing complexity of intelligent systems therefore requires moving beyond a purely instrumental view of technology toward a pedagogical and value-oriented perspective that places the person and the educational relationship at the center (Panciroli et al., 2020). The contemporary debate on Responsible AI emphasizes the need to integrate principles of equity, safety, transparency, and accountability throughout the entire life cycle of AI systems (OECD, 2019). In this respect, education should not only use AI but also educate with and about AI, fostering a complex literacy that encompasses cognitive, ethical, and social competencies.

Such an endeavor demands an interdisciplinary dialogue among educators, computer scientists, teachers, and students to ensure that the integration of AI into educational contexts remains consistent with the foundational values of democratic and inclusive education, preventing technological logics from prevailing over pedagogical ones.

Within this framework, the present contribution aims to explore the role of AI as a driver for building inclusive and reflective educational environments. The analysis adopts a socio-technical approach, viewing AI not as an autonomous entity but as a co-constructed environment shaped by cultural, political, and moral choices. Accordingly, after outlining the relevant literature on AI in education and AI for inclusion, the discussion converges on Participatory Design (PD) as a methodological pathway to connect educational aims, technological choices, and social justice.

2. AI in Education

Artificial Intelligence in Education (AIEd) today represents a well-established field of research situated at the intersection of computer science, cognitive science, and educational studies (Ouyang & Jiao, 2021; Holmes et al., 2023). Far from being a mere collection of digital tools, AIEd constitutes an emerging epistemological paradigm that redefines the relationships among teaching, learning, and knowledge. As noted by Panciroli and colleagues (2020), applications of AI in education include systems based on machine learning, deep learning, and natural language processing, which enable the analysis of learning behaviors, the prediction of students' needs, the provision of adaptive feedback, and the construction of personalized learning pathways (Hwang et al., 2020).

Machine Learning (ML) constitutes the operational core of AI, relying on mathematical algorithms that allow machines to learn from data and to improve their performance over time without being explicitly programmed (Popenici & Kerr, 2017). Through iterative training, ML systems process large datasets, identify patterns, and autonomously generate predictions and decisions. In educational contexts, ML is widely employed for student profiling and the prediction of school and university dropout risks (Del Bonifro, Gabbrielli, Lisanti, & Zingaro, 2020; Viberg, Hatakka, Bälter, & Mavroudi, 2018; Zawacki-Richter et al., 2019). A particularly relevant application is Learning Analytics (LA), which utilizes interaction data from digital learning environments to design intelligent and adaptive ecosystems. These systems can monitor participation, detect difficulties, and guide instructional design, thereby enhancing students' motivation and satisfaction (Ferguson, 2014; Mor, Ferguson, & Wasson, 2015).

Deep Learning (DL) represents an evolution of ML based on multi-layered neural networks capable of learning hierarchical representations of data. This approach progressively extracts complex features from raw inputs, as exemplified by facial or speech recognition systems (LeCun, Bengio, & Hinton, 2015; Ismail Fawaz et al., 2019; Zhang, Wang, & Liu, 2018). DL has achieved major advancements in areas such as Natural Language Processing (NLP) and Computer Vision (CV), supporting progress in linguistic and visual recognition and the resolution of complex tasks, including strategic games and simulation environments (Batmaz, Yurekli, Bilge, & Kaleli, 2018; Nguyen et al., 2019). Within education, DL underpins the development of Intelligent Tutoring Systems (ITS), capable of dynamically adapting content, strategies, and feedback to students' individual profiles (Panciroli et al., 2020). These systems integrate a domain model, a learner model, and a pedagogical model that guides instruction simulating individualized tutoring and dialogic interaction, and supporting collaborative learning through adaptive grouping (Wang, 2014).

Natural Language Processing (NLP) focuses on the automated analysis and comprehension of natural, written or spoken, language, enabling machines to understand, generate, and linguistically interact with humans (Boden, 2018). Through syntactic, semantic, and textual analysis, NLP extracts information, identifies emotions and intentions, and manages communication in natural language. Recent advances, such as speech recognition systems, chatbots, and voice assistants (e.g., Siri, Cortana), simulate human conversation across diverse digital interfaces (Diesbach & Midgley, 2007). Educational applications of NLP include improved access to online learning materials (Glass et al., 2007), the automated generation of e-learning content (Wang & Okamura, 2020), textual and source analysis for critical literacy (Sethi & Singla, 2016; Hjorth, 2020), and personalized chatbot-based interaction that enhances communication, engagement, and motivation among learners (Kerlyl, Hall, & Bull, 2006; Winkler & Soellner, 2018; Mendoza et al., 2020).

Together, ML, DL, and NLP constitute the complementary technological pillars of educational AI: the first provides the mechanisms for data-driven learning, the second deepens representational and inferential capacity, and the third extends AI's communicative and relational dimensions. In synergy, they support the creation of intelligent, adaptive, and inclusive learning environments that integrate personalization, accessibility, and pedagogical reflexivity.

When oriented by sound pedagogical principles, these technologies can greatly expand the possibilities for learning making processes more flexible, interactive, and multimodal. At the same time, they compel educators to question which forms of knowledge algorithms make visible, and which may be marginalized within data-driven systems privileging efficiency and measurability. As Holmes et al. (2022) and Lai & Bower (2020) observe, three major dimensions of AI development in education can be distinguished: AI in Education, referring to the use of intelligent systems to support teaching and learning processes; AI for Education, focusing on the design of ethical and socially responsible technologies that enhance the quality and equity of education; AI as Education, emphasizing education about AI, aimed at developing critical and digital citizenship competencies.

From a pedagogical standpoint, these dimensions intersect to form a new educational ecology, where AI simultaneously serves as medium, content, and context of learning. This ecology reshapes traditional conceptions of intelligence, assessment, personalization, and the educational relationship. In this scenario, schools and universities are called upon to cultivate citizens capable of critically inhabiting the socio-economic and cultural dynamics of intelligent technologies (Rivoltella, 2020). As UNESCO (2023) emphasizes, it is necessary to promote an "AI for and with humans", that is, an AI designed in service of, and co-created with, people. Within this framework, top-down approaches must give way to participatory practices that amplify the voices and imaginaries of end users, leading directly to the discussion on Participatory Design.

2.1 AI for Inclusion

The use of artificial intelligence to promote educational inclusion represents one of the most promising and, at the same time, most complex frontiers of contemporary pedagogical research. Within the framework of the UN Convention on the Rights of Persons with Disabilities (2006) and the Quality-of-Life model (Schalock & Verdugo, 2002), inclusion entails not only the removal of barriers but also the promotion of full participation, self-determination, and recognition of each individual's unique value.

In this perspective, AI can serve as a powerful enabling factor, fostering personalized, flexible, and accessible learning environments. Machine learning algorithms can adapt content and delivery modes to students' cognitive profiles; natural language processing systems can facilitate comprehension and production; and conversational avatars can enhance communication and socio-emotional competencies. To avoid ableist or exclusionary outcomes, inclusive AI must be grounded in participatory and situated design approaches that value the experiences of individuals living with disabilities or educational vulnerabilities. An inclusion-oriented AI thus requires the integrated development of four interdependent dimensions: Universal accessibility, consistent with the principles of Universal Design for Learning (CAST, 2024), ensuring multiple means of representation, expression, and engagement; Personalization and adaptability, respecting learners' rhythms, preferences, and strengths; Empathy and relationality, promoting human–machine interactions that foster well-being, belonging, and mutual care; Participation and co-design, actively involving teachers, students, and families in defining and evaluating educational technologies.

Promising applications include advanced assistive technologies (e.g., speech-to-text, text-to-speech, adaptive writing systems), multimodal interfaces for augmentative communication, and digital platforms that foster awareness of diversity and implicit bias. Nevertheless, major challenges remain biased data produce biased outcomes, and technological accessibility does not necessarily equate to pedagogical accessibility.

Education must therefore position itself as a critical space for ethical reflection and design, transforming AI into a laboratory for citizenship and cognitive justice (Floridi, 2021). Only a person-centered and equity-driven pedagogical approach can ensure that AI becomes an instrument of emancipation rather than exclusion.

In this sense, inclusion is not merely an objective to be achieved but a foundational principle of AI education, one that enables learners to imagine and design technologies oriented toward human dignity, thereby restoring the school's highest function: educating to humanity through technology. To make this vision effective, a

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methodological framework is needed to transform inclusion from a desired outcome into a dialogical process. Within this framework, Participatory Design (PD) provides the methodological and ethical tools to surface real needs, negotiate priorities, cultivate empathy, and develop critical AI literacy, the ability to understand how AI works, what assumptions underlie it, and whose interests it serves. This theoretical and methodological transition leads directly to the next section, which examines the importance of participatory design in education as an approach capable of combining methodological rigor with social significance, and which lays the foundation for the empirical study discussed in the following parts of the paper.

3. The Importance of Participatory Design in Educational Research

Participatory Design (PD) has its roots in Scandinavian workplace democracy movements, where it was originally developed as a way of giving workers a meaningful voice in shaping the technologies that structured their everyday lives (Björgvinsson et al., 2010). Over the past decades, PD has evolved into a broader methodological framework that extends well beyond professional contexts. In education, it has been embraced as a way of fostering agency, creativity, and collaboration among students while democratizing the processes through which learning technologies are conceived. At its core, PD is not simply about generating prototypes; it is about cultivating the conditions for dialogue, negotiation, and the recognition of diverse perspectives in design.

The adoption of PD in schools has shown significant potential to enhance both learning and research (Cumbo & Selwyn, 2022; Nicholson et al., 2022). For students, engaging in co-design activities provides an opportunity to exercise creative problem-solving and critical thinking, while simultaneously developing digital literacy skills (Dindler, Smith, & Iversen, 2020). Unlike more traditional forms of instruction, PD situates learners as active contributors rather than passive recipients, thereby supporting a sense of ownership and agency in their educational experiences. For researchers and educators, PD creates a space where students' imaginaries and values can surface, offering insights that may not emerge in more conventional forms of data collection.

In their systematic review, Borges et al. (2016) confirm that participatory design is particularly effective when applied to the development of inclusive educational technologies. Several studies show that assistive tools must be carefully customized for each learner with disabilities, and that PD allows this level of personalization by involving users, caregivers, and educators from the very beginning of the process. Their adaptation of the PD4CAT method demonstrates the importance of iterative, collaborative cycles in which stakeholders – including people with disabilities – act as co-designers of solutions. Building on these insights, the present study extends PD beyond the production of assistive prototypes to the cultivation of empathy and critical AI literacy among students.

When applied to questions of artificial intelligence, the relevance of PD becomes particularly striking (Kasinidou, 2024). AI is often presented to schools as a ready-made solution, designed by external experts and introduced with little input from those who will use it. This top-down approach risks reproducing inequities and overlooking the lived realities of diverse learners. PD offers an alternative by enabling students to critically engage with AI not only as consumers but as co-creators (Dangol et al., 2024). Recent work has demonstrated that high school students are capable of grappling with issues such as bias, transparency, and fairness in AI systems when given structured opportunities to do so (Pu et al., 2025). By involving them directly in the design of speculative tools, PD supports the development of what has been described as critical AI literacy (Kasinidou, 2024), the ability to interrogate how AI works, what assumptions it carries, and whose interests it serves (Ng et al., 2021).

Equally important is the role of PD in cultivating empathy (Ho et al., 2011; Davis, 2024). Design, in this framework, is not a neutral or purely technical task; it is a relational and political act. Asking students to imagine the perspectives of peers with disabilities, and to design with those perspectives in mind, encourages them to move beyond their own immediate experiences. Through role-taking, storytelling, and collaborative reflection, PD creates structured opportunities for students to engage affectively and ethically with issues of inclusion. While empathy is often treated as an intangible or secondary outcome in education, in this project it becomes a central design principle, one that guides both the process and the products of student creativity.

Participatory design in educational research does more than generate innovative ideas for technology use. It transforms the design process itself into a pedagogical encounter, where values are debated, perspectives are acknowledged, and students learn to see themselves as agents in shaping technological futures. For a domain such as AI in education, marked by rapid change, ethical uncertainty, and significant implications for equity, PD offers a framework that is not only methodologically rigorous but also socially and pedagogically meaningful.

4. Current Study

4.1 Research objectives and questions

The study presented in this paper is not primarily concerned with evaluating a finished technology or measuring learning outcomes in a conventional sense. Instead, its focus lies on the process of engaging students as co-designers of inclusive AI tools. By positioning students in this role, the project seeks to achieve two interconnected goals. On the one hand, it aims to cultivate empathy and awareness of disability by asking students to imagine the perspectives of peers with special educational needs. On the other, it seeks to nurture critical AI literacy, encouraging students to reflect on both the promises and the limitations of generative technologies in education.

In the Italian context, these objectives acquire particular relevance. Unlike in many countries where students with disabilities often attend special schools, the Italian education system has long embraced a fully inclusive model in which all students share the same classrooms (Aiello & Pace, 2020). It is therefore very likely that participants in the workshop will already have direct experience of learning alongside peers with disabilities. This creates a double benefit: the project does not only ask students to imagine the perspectives of others in an abstract sense, but also allows them to reflect on and reframe their own lived experience of inclusive schooling. In addition, the workshop is offered within the framework of the national *Percorsi per le Competenze Trasversali e l'Orientamento* (PCTO), a program designed to bridge education and professional training. This gives the project an applied dimension, situating it not only within academic research but also within students' broader preparation for active citizenship and future work.

From this orientation emerge the guiding research questions. The first concerns how students conceptualize the potential of AI to support their peers with disabilities: what functions, scenarios, and ethical considerations do they highlight when imagining inclusive technologies? The second addresses the pedagogical dimension: in what ways can the participatory design process itself foster empathy, agency, and critical reflection on inclusion? Finally, a third question looks at the speculative value of the activity, asking what kinds of design imaginaries and critical insights can be generated when young people are invited to think of themselves as co-creators rather than mere users of AI.

4.1 Methodology

The study will take the form of a participatory design workshop involving a group of upper secondary school students, following the principles and methodologies stated by Pu et al. (2025) in a similar study. Approximately twenty to twenty-five students, aged between sixteen and eighteen, will voluntarily participate in a three-session program scheduled within the national framework of *Percorsi per le Competenze Trasversali e l'Orientamento* (PCTO), which links classroom learning to professional training and active citizenship. The workshop is designed as a first iteration, with the possibility of being replicated during the winter term if additional students wish to enrol.

In total, the workshop will span eleven hours, allowing sufficient time for a balance between theoretical input, experiential activities, and collaborative design work.

The choice of a workshop format reflects the dual ambition of the project: to generate empirical material for research, and at the same time to create a meaningful learning experience for participants. Rather than positioning students as passive respondents in a survey or as mere consumers of technology, the workshop is structured to invite them into an active role as co-designers. This approach aligns with the tradition of participatory design, which emphasizes collaboration, democratic involvement, and the recognition of users' perspectives as valuable contributions to the design process. The workshop is organized into three phases, as follows.

Introduction and Pre-Survey (3 hours)

The first session opens with an introduction to the project's objectives and the broader research context. Students are invited to share their prior experiences and representations of artificial intelligence, accessibility, and inclusion. To establish a baseline for measuring change in affective and cognitive dimensions, participants complete a pre-survey consisting of three sections: (a) demographic information; (b) previous familiarity with AI tools and perceived competence; and (c) beliefs and attitudes toward disability. Additionally, the Toronto Empathy Questionnaire (TEQ) (Spreng et al., 2009) is administered at this stage to quantify empathy levels before the intervention, together with the Critical Artificial Intelligence Literacy Scale (Ranieri et al., 2025).

Following the survey, students are introduced to the fundamentals of generative artificial intelligence, including concepts such as large language models, data bias, prompt engineering, and educational applications. The presentation is deliberately interactive, inviting students to test short prompts and to reflect on how AI might both support and hinder learning. The discussion transitions into *GenAI4All*, a segment devoted to concrete examples of AI use for students with special educational needs. Here, participants explore cases such as AI-assisted writing for dyslexic learners, captioning tools for the deaf, and text-to-speech systems for visually impaired users. By engaging with tangible applications and first-person experiences, students are encouraged to shift from abstract notions of technology to situated reflections on accessibility and care.

Problem Space and Design Conceptualization (4 hours)

The second part begins with a Problem Space Brainstorming activity, where students individually generate lists of potential challenges and ethical concerns related to generative AI and its implications for different disabilities. Each student considers how AI might either empower or marginalize people with specific needs, identifying potential risks (e.g., bias, over-reliance on automation, privacy) and opportunities (e.g., adaptive feedback, multimodal access). The brainstorming is followed by a collective clustering process through which recurring themes are identified and categorized into major domains: sensory accessibility, linguistic mediation, emotional support, and cognitive scaffolding.

Based on these thematic domains, participants are divided into small groups, each dedicated to a particular educational need: visual impairment, hearing impairment, autism spectrum condition, dyslexia and linguistic differences. Each group is then given a fictional design brief simulating a real-world challenge: they were "hired" by a leading technology company committed to developing inclusive AI solutions for learning. The framing of the task as a professional commission transforms the exercise into a task-based learning experience, connecting creative ideation with real-life design constraints and ethical accountability.

During the "Adding AI" stage, they specify the technical and functional components of their hypothetical tools: user interface design, content generation, data processing, personalization features, and accessibility affordances. Students are encouraged to think through the socio-technical implications of each decision, considering data privacy, representation, and sensitivity.

Enactment and Reflection (4 hours)

The third and last part focuses on enactment through performance and reflection. Each group prepares a three-minute skit, in which they dramatize their proposed AI tool in action. The skits require the creation of a brief script describing the setting, characters, and interactions among users, teachers, and the AI system. Role-playing serves a dual purpose: it allowed students to visualize the social impact of their designs and to embody different perspectives, including those of people with disabilities, educators, and developers. Previous research has demonstrated that performative storytelling and dramatization can deepen empathic engagement and critical awareness in design-based learning (Bell & Davis, 2016; Ho et al., 2011).

After each performance, a post-skit discussion invites all participants to comment on what they observed, identify new insights or concerns, and relate the experience to their evolving views on AI, disability, and inclusion. This reflective dialogue is essential for transforming creative activity into conscious learning.

At the close of the workshop, students complete a post-survey identical in structure to the initial one, including the two validated scales and items assessing familiarity with AI, confidence in using it, and attitudes toward disability and empathy. Comparing pre- and post-intervention responses allows for an analysis of potential changes in empathy and critical literacy, providing both quantitative and qualitative data for interpretation.

The dataset will consist of three types of data: (1) students' written and visual outputs produced during design activities (storyboards, notes, and sketches); (2) transcripts of group discussions and reflective exchanges; and (3) pre- and post-survey responses. Qualitative data will be analyzed through inductive thematic analysis (Braun & Clarke, 2006) to identify emergent patterns related to empathy, inclusion, and conceptualizations of AI. Inter-rater coding will be applied to ensure consistency and reliability. Quantitative data derived from the TEQ and the AI Literacy Scale will be analyzed descriptively to detect variations in empathy and AI literacy over the course of the intervention.

5. Expected contributions and outcomes

Although the workshop has not yet been implemented, the project is designed to make a distinctive contribution at the intersection of AI education, inclusive pedagogy, and participatory design. Its originality lies not in producing a finished technological tool, but in foregrounding the imaginative and ethical dimensions of design as a pedagogical practice. By positioning high school students as co-creators of inclusive AI concepts, the study challenges conventional narratives that treat young people merely as end-users of educational technology and reframes design as a relational and political act.

The workshop is conceived as an intervention that can simultaneously foster empathy, creativity, and critical reflection. Students are not simply learning how AI works; they are also asked to interrogate how it might be useful (or fail to be useful) for themselves and for peers with diverse educational needs. This dual orientation is expected to generate both cognitive and affective learning outcomes: a more nuanced awareness of the technical and ethical challenges surrounding AI, together with a stronger empathic orientation toward disability and inclusion. In this sense, the workshop functions as a laboratory for developing twenty-first-century competencies that combine digital literacy with social and emotional learning.

At the same time, the methodological approach expands the scope of participatory design in education. While PD has been widely used to promote collaboration and empowerment, its application to the theme of AI and disability remains rare. By emphasizing speculative design and performative storytelling rather than concrete prototyping, the project underscores imagination and empathy as central elements of the design process. This choice highlights AI as a socio-technical system shaped by values and assumptions, rather than as a neutral or inevitable tool, and it encourages students to see design as a site where questions of fairness, accessibility, and representation must be addressed.

The expected outcomes are therefore both pedagogical and conceptual. Role-based activities, storytelling, and collaborative prototyping are likely to prompt students to consider barriers faced by others and to articulate design choices that reflect a concern for inclusion. While empathy cannot be taught in a linear manner, structured opportunities for role-taking and reflection have been shown to foster meaningful shifts in attitudes (Bell & Davis, 2016), and the workshop is designed to provide exactly such opportunities. Alongside this, students are expected to develop a form of critical AI literacy, moving beyond surface-level familiarity to engage with the ethical and political implications of generative systems.

Several challenges must also be acknowledged. The relatively small sample size and the limited duration of the workshop mean that findings will not be generalizable. Some students may engage superficially with the activities, reproducing stereotypes rather than developing nuanced understandings of disability. To address this, the workshop explicitly integrates the voices of people with disabilities by drawing on materials authored by them and, when students with disabilities are present and willing, by creating space for their direct contributions. This ensures that perspectives on disability are not treated only as abstract scenarios but also as lived experiences, enriching the reflective and empathic dimension of the project. Nevertheless, it remains important for future research to strengthen this dimension by involving disabled students more systematically as co-designers. Finally, the speculative ideas generated by students are unlikely to be technically feasible in the short term. Yet this is not a weakness of the project: by prioritizing values and ethical concerns over immediate functionality, the workshop highlights questions that can later inform concrete development.

Looking ahead, the project opens several paths for further research and practice. Expanding the workshop to multiple schools would allow for a more diverse range of perspectives, while integrating the voices of students with disabilities would add depth and authenticity to the design process. Longitudinal studies could also explore whether the empathic and critical dispositions fostered through participatory design are sustained over time, and whether they shape students' broader engagement with technology and inclusion.

Taken together, these contributions and outcomes illustrate the originality of the project. It is neither a purely technical exploration of AI in schools nor a conventional intervention on disability awareness. Instead, it positions AI as a medium for cultivating empathy and inclusion, while also foregrounding the capacity of young people to act as active agents in imagining more equitable educational futures.

6. Conclusions

This paper has outlined the design of a participatory workshop that engages Italian high school students as co-creators of inclusive AI concepts. While the study has not yet been implemented, its methodological framework illustrates how participatory design can function simultaneously as a research tool and as a pedagogical intervention. By combining role-based activities, collaborative prototyping, and performative storytelling, the workshop seeks to cultivate empathy, stimulate critical AI literacy, and invite students to reflect on disability and inclusion in ways that are both imaginative and ethically grounded.

The Italian context gives this project particular significance. Because all students attend mainstream schools rather than separate special institutions, participants are likely to have direct experience of learning alongside peers with disabilities. This makes the reflection not merely hypothetical, but anchored in everyday school life.

The integration of materials authored by people with disabilities, together with the opportunity for students with disabilities to contribute if they wish, ensures that the workshop incorporates lived perspectives as well as imagined ones. Moreover, by situating the project within the national *Percorsi per le Competenze Trasversali e l'Orientamento* (PCTO) framework, the study demonstrates how research can be aligned with broader educational goals of preparing students for active citizenship and the world of work.

These features highlight the originality and relevance of the project. It neither reduces AI to a technical matter nor treats disability as a purely social theme; instead, it brings the two into dialogue, positioning AI as a medium for fostering empathy and inclusion. For educators, the workshop offers a concrete model for linking digital literacy with social and emotional learning. For policymakers and developers, it underscores the importance of involving students' voices in shaping the future of educational technologies. More broadly, it illustrates how participatory design can create spaces where young people imagine alternative technological futures and also practice the values of equity, care, and responsibility that those futures should embody.

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