Good Practices of AI Use: Case Studies from Türkiye

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Abstract

This paper presents three AI-supported good practices developed in Türkiye as part of the AI-Enable Erasmus+ project illustrating how artificial intelligence can support inclusive education in higher education. The practices were created during exploration workshops at Istanbul University-Cerrahpaşa with the involvement of academic staff and students. They focus on diverse areas, including academic writing support, inclusive language teaching materials, and accessible video content. The cases demonstrate that low-cost, open-access AI tools can be effectively used in pedagogical contexts to enhance digital creativity and address diverse learner needs. Participants reported increased confidence, engagement, and awareness of inclusive practices. However, challenges such as internet access, language limitations of tools, copyright concerns, and the need for ethical guidance were also noted. Overall, the findings show that the meaningful use of AI in inclusive education depends not only on technology itself but also on pedagogical design, ethical implementation, and institutional support.

Keywords

AI-Enable Project, Artificial Intelligence, Inclusive Education, Good Practices, Higher Education

1 Introduction

The integration of Artificial Intelligence (AI) into higher education offers new opportunities for inclusive, personalized, and student-centered learning. Adaptive learning platforms and intelligent tutoring systems enable students to receive individualized instruction and feedback [1]. Educators can create more flexible and inclusive learning environments that respond to diverse learner needs [2]. While the impact of AI on education remains a subject of ongoing debate, its potential to promote inclusion and improve educational outcomes is increasingly recognized [3].

In this context, the growing use of AI tools such as ChatGPT, Gemini, Napkin, and Canva highlights the importance of shaping education policies that prepare individuals for the future, developing flexible and accessible learning systems, and establishing guidelines for the ethical use of AI [4]. As part of the Erasmus+ supported AI-Enable Project, a framework, guidelines, and good practice examples have been developed to guide AI integration in higher education. This paper presents selected good practices from Türkiye to demonstrate how AI technologies can contribute to inclusive education through concrete, context-sensitive examples.

Inclusive education in higher education requires not only access to digital tools but also pedagogically grounded, ethically responsible, and learner-sensitive practices. However, without addressing challenges such as limited infrastructure and lack of teacher training, these practices cannot be effectively implemented [5]. The AI-Enable Project brought together universities from Slovenia, Spain, Portugal, and Türkiye to identify and document inclusive, AI-supported teaching practices. Through exploration workshops with academic staff, students, and researchers, ten good practices aligned with pedagogical value, scalability, and inclusive AI principles were developed.

This paper focuses on three selected examples from Türkiye, ranging from academic writing support to multimodal material design. These cases illustrate how AI tools can enhance inclusion in Turkish higher education. Grounded in real educational challenges and tested in classroom contexts, the case studies offer insights into the transformative potential of AI when implemented thoughtfully and intentionally.

2 Methodology

This study aims to present good practice examples of inclusive artificial intelligence applications implemented in higher education institutions in Türkiye within the scope of the AI-Enable Project. The three good practices featured in this paper were developed during exploration workshops held at Istanbul University-Cerrahpaşa. These workshops brought together academic staff, undergraduate and graduate students, and researchers to collaboratively develop AI-supported solutions addressing educational challenges related to inclusion.

Each good practice was structured around the following components:

- The identified inclusion challenge
- The AI tool(s) used
- The target student group and level of education

Information Society 2025, 6–10 October 2025, Ljubljana, Slovenia

https://doi.org/10.70314/is.2025.digin.4

- The expected or observed outcomes
- Reflections on the strengths and limitations of the tools.

The selected practices were analyzed not only in terms of their technical application but also regarding pedagogical coherence, sensitivity to learner diversity, and ethical awareness. These examples offer insights into how inclusive, AI-supported educational practices can be meaningfully and sustainably integrated into higher education institutions in Türkiye.

These workshops were supported by Istanbul University-Cerrahpaşa through access to computer labs, stable internet infrastructure, and institutional encouragement of AI experimentation. While no formal training program was in place, instructors provided informal peer support and curated prompts. These grassroots support mechanisms were essential in facilitating meaningful experimentation with AI tools.

3 CASE STUDIES FROM TÜRKİYE

3.1 AI-Supported Inclusivity in Academic Writing

This practice implemented at Istanbul University-Cerrahpaşa, aimed to enhance equity in academic writing processes. In exploration workshops attended by graduate and doctoral students as well as academic staff, tools such as ChatGPT, Gemini, Scispace, Perplexity, and Consensus AI were used to support academic productivity. Participants utilized these tools for literature review, theoretical framework development, qualitative data analysis, and academic writing.

The initiative particularly aimed to alleviate barriers experienced by non-native English-speaking researchers, including language difficulties, time constraints, and limited access to academic resources. Through prepared prompt templates and sample contents, participants learned how to use AI tools ethically. At the end of the process, participants reported feeling more confident and productive; however, they also highlighted the need for more guidance on ethical use and sustainable access to AI tools.

3.2 Using AI Tools to Create Inclusive Worksheets and Audio Materials for Pre-Service Language Teachers

This good practice aimed to support English language teacher candidates in producing inclusive instructional materials for students with diverse learning styles. Participants created reading and grammar exercises aligned with CEFR levels using ChatGPT and Gemini and generated natural-sounding audio content with text-to-speech (TTS) tools such as Murf.ai, Play.ht, and ElevenLabs. Canva and Piktochart were actively used in the design of visual materials.

The resulting materials were diversified to address auditory, visual, and kinesthetic learning preferences. Accessibility was enhanced by providing audio content via QR codes. As a result of the practice, the teacher candidates gained valuable skills in using AI tools both creatively and pedagogically. Challenges included dependence on internet connectivity and limited experience in effective prompt engineering.

3.3 Using AI Video Tools to Create Inclusive Language Learning Materials

This practice conducted with pre-service English language teachers, focused on producing diverse and inclusive video content. Participants developed scenarios using ChatGPT and Gemini and transformed them into avatar-supported videos through tools such as Fliki, Pictory, and Synthesia. Audio components were created using Murf.ai and Play.ht, while Canva and Bing Image Creator were used for visual design.

The practice aimed to create accessible learning environments for students with learning differences such as dyslexia, attention deficit, and hearing impairment. Participants took active roles in planning, producing, and evaluating content through group work, which helped them enhance both their digital creativity and awareness of inclusivity. Feedback indicated that the activity strongly supported motivation and creativity but also revealed a need for further guidance on copyright issues and content verification.

4 CONCLUSION

The three good practices presented in this paper demonstrate how artificial intelligence can be meaningfully and creatively utilized to support inclusive education in higher education in Türkiye. Common features across the cases include the pedagogical integration of low-cost, open-access tools; the enhancement of digital creativity among both teachers and students; and a systematic sensitivity to diverse learner profiles.

These case studies highlight that AI tools are not merely technical solutions but pedagogical instruments that invite educators to rethink teaching and learning processes. Active participation by students and instructors enabled shared responsibility, critical reflection, and greater teacher autonomy. In this context, the AI-supported creation of learning materials not only enhanced accessibility but also increased learner engagement, motivation, and participation.

At the same time, the implementations revealed several challenges. Issues such as reliance on stable internet access, the linguistic limitations of AI tools, concerns over copyright and content accuracy underscored the need for institutional measures to ensure ethical and sustainable integration. Moreover, it became evident that teachers require more structured guidance, exemplary practices, and professional development opportunities to use AI effectively within pedagogical settings.

In conclusion, this study illustrates both the potential and the critical considerations of using AI to foster inclusive education, through three concrete examples from Türkiye. These practices may inspire not only local efforts but also broader initiatives across higher education contexts in Europe. These practices, while developed in a local university context, offer a scalable framework that can be adapted to different higher education institutions. Their emphasis on low-cost tools, participatory design, and contextual relevance makes them suitable for replication across diverse educational settings. For AI to play a meaningful role in inclusive education, it must be embedded in pedagogically sound, ethically grounded, and participatory approaches—beyond mere technological availability.

Further research is needed to evaluate the long-term impact of AI-supported inclusive practices on student outcomes.

Comparative studies across different universities or cultural contexts may offer additional insights into best practices for scaling and adapting these approaches. Developing institution-wide policies that ensure ethical use and sustainable infrastructure will also be essential in the coming years.

Acknowledgments

This research was done as part of the AI-ENABLE project (https://aienable.eu, 2023-1-SI01-KA220-HED-000160853), which is Co-funded by the Erasmus+ Programme of the European Union.

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