

Research Article

Next-Gen Learning in the UAE: AI and Metaverse Solutions for Sustainable Higher Education in Communication Studies

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ABSTRACT

This research investigates the role of artificial intelligence and Metaverse technologies within higher education in the UAE with a focus on its relevance to Communication and Media Studies disciplines. The main aim of this research is to investigate whether these technologies can contribute to the creation of an education that is more inclusive of SoDs. Both the accessibility and preparedness of the students, teachers and institutions to utilize these technologies was measured. Through interviewing 12 individuals from universities within the UAE, it was revealed that AI technologies can help to increase the accessibility of higher education for SoDs, as the Metaverse has allowed for the creation of immersive environments that have helped to insert SoDs into the classroom. However, challenges exist in relation to the preparedness of teachers to implement these technologies, ethical considerations, data privacy and the costs of implementing these technologies within universities. To better serve the targeted students within these universities, changes to the existing policies and the allocation of resources to those universities is required. Such changes would involve the implementation of digital resources that are accessible to all students within the universities, as well as the allocation of resources to upgrade the existing infrastructure and staff within those institutions.

1. INTRODUCTION

The rapid growth of digital technologies is reshaping educational environments globally. Among the many digital technologies that exist today, AI and the Metaverse are two that are disrupting education and transforming the way that students access and experience knowledge. Given the importance of digital technologies like AI and the Metaverse to the national vision of the UAE, it is fitting that the country attempts to integrate these technologies into its higher education institutions. AI technologies can enhance higher education through personalized learning and feedback for students, as well as through the development of curricula that cater to the learning abilities of individual students [1, 2, 3, 4, 5]. However, AI in education also poses challenges and concerns for these institutions [6, 7, 8, 9]. Additionally, the technologies behind the Metaverse offer higher education institutions the potential to implement new forms of learning experiences for students [10, 11, 12, 13, 14, 15]. However, the Metaverse poses challenges to access to such technology for some students [16, 17, 14]. There is thus a gap in the literature regarding how these technologies can be made accessible to the SoDs. Therefore, the research problem that will be addressed in this research study is as follows: How can AI and the Metaverse be designed and integrated into higher education institutions within the UAE to cater to the needs of the Students of Determination?

Two research Questions are highlighted:

- RQ1: In what manner do AI- and Metaverse-based educational platforms in UAE higher education institutions incorporate accessibility features for students of determination?

- RQ2: To what extent are faculty and administrative staff in UAE higher education institutions ready to integrate (how ready are they to prepare for the implementation of) AI and the metaverse technologies to moderate learning barriers for students of determination?

The research is based on three frameworks. The first framework is Universal Design for Learning (UDL) [18], which considers the AI and the Metaverse through the multifaceted means of engagement, representation, and expression to analyze the Accessibility and Success of SoDs. Furthermore, the Faculty will adopt these technologies according to the Technology Acceptance Model (TAM) [19] that explains the impact of the software's perceiving of its usefulness and ease of use, which relates to the readiness of the teacher to receive support within the institution regarding the ethics of such use. Finally, the Social Model of Disability [20] discusses how disabilities are the result of social and structural barriers, just as the inclusion of students with disabilities is required by Law No. 29 (2006) of the UAE and is directly related to the accessibility of the technologies.

2. METHOD

This study adopted a qualitative exploratory design to examine how AI-powered and Metaverse-based technologies are being used to support inclusive higher education in the UAE, with particular attention to their relevance for communication and media studies education. The study sought to explore expert perceptions, institutional readiness, accessibility practices, and the perceived opportunities and challenges associated with these emerging technologies.

It should be noted that this paper is part of an ongoing research project, and that it forms part of a previous manuscript under review, entitled “Transforming Media Design Education: Evaluating AI Applications vs. Traditional Tools in Teaching and Content Creation.” A special focus was put on SoDs, through two focus group interviews regarding their use of AI tools, during their journey of communication and digital media studies. The current manuscript investigates the perspectives of experts in the field, thus extending the previous research to understand the perceptions of AI and Metaverse technologies among those instructors, specialists in disability studies, and those who are interested in the integration of technology into education more broadly.

2.1 Sampling and Recruitment

Participants were selected through purposive sampling. The study targeted individuals whose professional experience was directly relevant to at least one of the following areas: communication and media education, educational technology, disability support services, inclusive pedagogy, AI-supported learning, or Metaverse-based learning environments. Participants were contacted through professional and institutional networks in UAE higher education. The selection aimed to ensure diversity in professional roles and expertise rather than statistical representativeness.

The final sample consisted of 12 participants, including faculty members, disability support specialists, and educational technology professionals from six universities (University of Sharjah, Ajman University, Liwa University, Abu Dhabi University, Zayed University, and Um Al Quwain University). The participants were anonymized using participant codes to protect confidentiality. No real names were retained in the analysis (see Table I).

TABLE I. THE SAMPLE COMPOSITION

P	G	Profession	Area of Expertise	Institution	Relevance to Study
P1	F	Disability Support / Psychological Support Specialist	Student support, inclusive education, AI-assisted support	University of Sharjah	Experience with SoDs and AI-supported student services
P2	F	Faculty Member	Inclusive teaching, communication/media pedagogy	Ajman University	Experience teaching SoDs
P3	F	Faculty Member	AI in higher education, curriculum innovation	Abu Dhabi University	Expertise in AI-supported teaching
P4	F	Faculty Member / Administrator	Digital learning, institutional readiness	Um Al Quwain University	Perspective on financial and institutional barriers
P5	M	Faculty Member	Teaching innovation, digital pedagogy	Um Al Quwain University	Experience with AI-supported teaching practices
P6	F	Faculty Member / EdTech User	Assistive technologies, accessible content	Um Al Quwain University	Knowledge of accessibility tools
P7	F	Administrator / Faculty Member	AI in administration and teaching	Abu Dhabi University	Institutional perspective on AI adoption
P8	F	Educational Technology Specialist	Digital learning platforms	Liwa University	Expertise in technology-supported learning
P9	M	AI / Educational Technology Developer	AI-based tools, Metaverse environments, accessibility	Zayed University	Direct experience developing AI/Metaverse tools for SoDs
P10	M	Faculty Member	Communication and digital media education	University of Sharjah	Communication education perspective

P	G	Profession	Area of Expertise	Institution	Relevance to Study
P11	M	Faculty Member	AI use, academic integrity, teaching practice	Ajman University	Perspective on risks and misuse of AI
P12	M	Faculty Member / Researcher	AI-supported research and teaching	University of Sharjah	Expertise in AI for research and faculty productivity

P= Participant; G = Gender

Data were collected conducted between December 2024 and May 2025 face to face, and online via zoom, and Teams. Each interview lasted approximately 40 to 50 minutes. The interview questions addressed four main areas: Perceived role of AI and Metaverse technologies in higher education; accessibility features available for SoDs; faculty and institutional readiness to adopt these technologies; and the ethical, financial, pedagogical, and governance challenges associated with their implementation.

2.2 Ethical Considerations

Participation was voluntary. Participants were informed about the purpose of the study, the expected duration of the interview, and their right to withdraw at any stage. The data were anonymized, and participant codes were used instead of real names. The study followed standard ethical principles of informed consent, confidentiality, and responsible handling of qualitative data (see Table II).

TABLE II. THEMATIC ANALYSIS CODES BY RESEARCH QUESTION

Research Question	Main Theme	Sub-Themes	Analytical Description
RQ1. In what manner do AI- and Metaverse-based educational platforms in UAE higher education institutions incorporate accessibility features for Students of Determination?	1.1 Technical Accessibility	-Voice input and speech recognition -Screen readers and text-to-speech -Captioning and transcription tools	Examines whether AI and Metaverse platforms provide built-in assistive functions that support sensory and physical access for SoDs.
	1.2 Inclusive Interface and Design	-Customizable avatars and visual sensitivity settings -Simple navigation and visual contrast -Reduced motion in VR environments	Reflects adherence to Universal Design for Learning (UDL) principles through adaptive, user-friendly digital environments.
	1.3 Pedagogical Adaptation	-Multi-modal content delivery (audio, video, text) -AI-supported personalized learning paths - Alternative assessment formats	Highlights how instructors employ AI and immersive tools to deliver differentiated and accessible learning experiences.
	1.4 Gaps and Technical Limitations	-Incomplete accessibility features -Language barriers (Arabic/English) -High cost of implementation	Identifies structural or technological gaps preventing full accessibility in AI and Metaverse adoption.
RQ2. How prepared are faculty and institutions to support the inclusive use of AI and Metaverse technologies for Students of Determination in UAE HE Institutions?	2.1 Faculty Awareness and Competence	-Familiarity with AI/Metaverse tools -Perceived usefulness and ease of use -Self-efficacy in using assistive technologies	Examines faculty understanding, confidence, and readiness to adopt emerging technologies in inclusive teaching.
	2.2 Institutional Readiness	- Infrastructure and digital resources - Administrative and IT support - Budget allocation for accessibility	Explores the availability of institutional support mechanisms that facilitate inclusive technology integration.
	2.3 Training and Professional Development	-Availability of workshops and courses -Peer mentoring and collaborative learning -Partnerships with tech providers	Captures the extent to which faculty receive structured guidance and training on inclusive AI/Metaverse practices.
	2.4 Policy and Strategic Alignment	-Institutional inclusion policies -Compliance with national disability legislation -Role of accreditation bodies (CAA, AEJMC)	Links organizational strategy with inclusivity goals, ensuring sustainable adoption.
	2.5 Ethical and Cultural Considerations	-Data privacy and student consent -Fairness in algorithmic decisions - Cultural perceptions of disability	Reflects the ethical and social dimensions of implementing AI and immersive technologies for diverse learners.

3. FINDINGS

3.1 Understanding the Needs of Students of Determination

SoDs represent a diverse group of learners whose educational needs vary according to the nature of their disabilities and learning conditions. These may include visual, hearing, physical, cognitive, developmental, or autism-related challenges. As a result, ensuring equitable access to higher education requires a combination of assistive technologies, adaptive teaching strategies, and accessible learning environments that respond to these different needs (See Figure 1).



Fig. 1. Key Accessibility Needs Across Diverse SDs in Higher Education

3.2 Accessibility Features of AI and Metaverse Platforms Supporting Students of Determination in UAE Higher Education (RQ1)

Using semi-structured interviews with a group of faculty associated with universities in the UAE, the present section examines the features of accessibility provided by AI and Metaverses to facilitate the work of students with disabilities in a higher education institution. It also looks at the ways that these technologies are used to establish more inclusive and equitable learning opportunities that meet the needs and challenges of this student group.

Responding to questions associated with theme 1 on the significance of AI in post-secondary education, and the opportunities it presents to the UAE university students with disabilities, the participants affirmed that the use of AI and Metaverse technologies in the university is becoming more widespread and used to improve the learning experience of students with disabilities in the UAE. These resources have great possibilities to assist motivated students, as they will receive a personal approach, available resources, and experience. P1 justifies the fact P1 describes The UAE is determined to inclusive education through Federal Law No. 29 of 2006 on the Rights of people with disabilities. This is committed to higher education, and I think not only my university but also all higher education institutions in the UAE initiated the process of implementation of such technologies to improve the learning operations. P3 added" AI in higher education is very crucial, and it can be used as a means of improving the quality of the education, and it can be used to make the university experience more unique by using individualized learning. P5, P7 and P11 have reinforced this position of view by stating that AI is a real prospect that can lead to a fundamental change in higher education.

Concerning the opportunities of AI and Metaverse to support students with determination, respondents unanimously asserted that AI applications play a vital role in enhancing the outcomes of the educational process, serving as supportive tools for overcoming obstacles that students with special needs may encounter during this critical stage of education, as they help deliver educational content in ways that match their cognitive capacities and comprehension abilities. P9 asserts that "AI presents unparalleled opportunities for personalized education by tailoring content, assessments, and learning pace to meet the unique needs of each student. Meanwhile, the Metaverse facilitates immersive and experiential learning within safe virtual environments, particularly beneficial for students with social anxiety or physical mobility challenges.", In the same vein, P2 added "This issue is especially close to my heart, as I have taught students with determination many times, and I believe AI can serve as a bridge that connects them to the world of knowledge and makes a real difference in their lives".

Participants mentioned many accessibility features of AI and Metaverse Platforms for SoDs in their respective universities. P1 reports "As the Executive Director of the Psychological Support Unit at the university, we developed an AI agent called the "Smart Companion for Psychological Support" to assist students with their mental well-being. The agent was trained using reliable scientific references and studies that address the psychological challenges students often face during this critical educational stage. We also employed the educational gamification tool Blooket to simplify content for a student diagnosed with autism. One of the course lessons was transformed into a quiz game, with rewards for achieving high scores based on accuracy and speed in answering questions. The result was a surprisingly positive improvement in the student's comprehension and social engagement levels".

In the meantime, P2 explains " As an educator, I always strive to consider these needs when designing my lessons, selecting tools that are flexible and inclusive; For instance, there are remarkable tools that convert text to speech and vice versa,

technologies that benefit blind students or those with reading difficulties. There are also tools for sign language translation and real-time speech-to-text generation, which help deaf students follow lectures live and without delay. I came to the conclusion that these tools eliminate many psychological and technical barriers that have long hindered the effective participation of students with disabilities in education.”

Having less experience, P4 clarifies that “several tools are now available to assist people with disabilities, especially those with hearing impairments or delayed cognitive processing. AI can simplify content presentation, convert speech into gesture-based sign language, and provide visual descriptions for the visually impaired by translating and explaining images. My university is not ready yet to implement these kinds of technologies due to certain financial challenges, but the will is there to integrate them as soon as possible.”

P6 added “AI offers significant opportunities to facilitate education and training for those students, by providing advanced solutions that meet their specific needs. For example, machine learning technologies can be used to develop targeted educational programs that accommodate each student’s abilities. Text-to-speech systems and smart reading applications offer effective support for blind or visually impaired students. For those with hearing impairments, AI technologies can provide real-time subtitles or interpret sign language, making it easier for them to participate in lectures. Additionally, interactive tools such as intelligent robots or virtual training platforms offer hands-on and engaging learning experiences.” She concluded then that “these diverse tools make AI a foundational pillar in promoting equal educational opportunities.”

Respondent 9, a Staff involved in developing AI-driven educational tools for SoDs at his university, shared his experience: “I have been engaged in designing AI-based educational experiences that account for individual differences and respond to the specific needs of SoDs, particularly those with learning difficulties. Key initiatives include leveraging AI to provide real-time feedback on writing tasks, offering alternative explanations, and adapting the pace of content delivery to match each student’s capabilities. As for Metaverse technologies, I have contributed to creating virtual environments that replicate real-life and professional scenarios, aimed at training students in social and vocational skills. These environments feature accessible navigation tools and customizable avatars to accommodate a wide range of motor and sensory needs.”

Although participants expressed strong optimism regarding the educational value of AI and Metaverse technologies, they consistently emphasized that technology alone cannot guarantee inclusion. Several respondents argued that the success of these tools depends largely on how they are implemented within teaching practice, the extent to which accessibility considerations are integrated into their design, and the level of support and training available to faculty members. Within communication and media studies, participants viewed these technologies as particularly useful for supporting media production activities, digital storytelling, collaborative projects, and accessible content creation (See Figure 2).

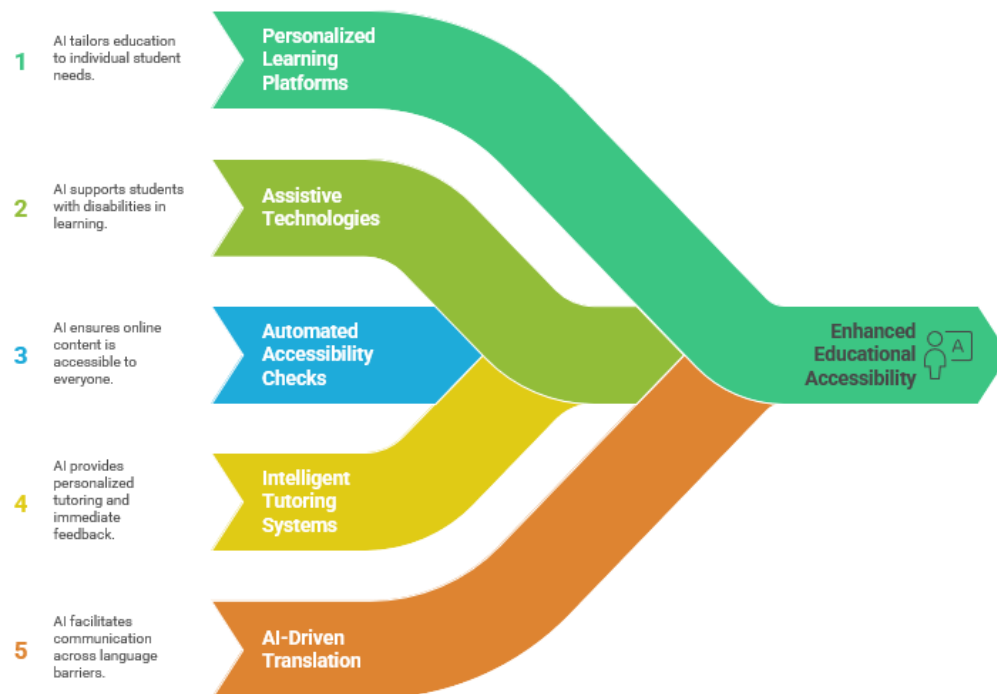


Fig. 2. Opportunities of AI & the Metaverse in UAE Universities to Support SoDs.

To answer RQ1, the findings from the semi-structured interviews are summarized as follows:

Concerning the features of AI integration, the respondents among faculty across various UAE universities affirmed that AI and Metaverse technologies present a diverse array of tools and features that significantly enhance accessibility for SoDs. While some universities in the UAE have already begun integrating these technologies into their educational systems, others remain in the preliminary stages, often contingent upon institutional size and resource availability. Among the most commonly adopted tools are Text-to-Speech (TTS) and Speech-to-Text (STT) applications. These assistive technologies have shown considerable promise in addressing the needs of students with disabilities. Students with visual impairments, use TTS to access to course content, assignments, and digital resources by converting written materials into spoken language, while students with learning disabilities, such as dyslexia, get help of it improve their comprehension and reading fluency through auditory reinforcement. As for STT tools, they enable greater academic participation for students with motor impairments by allowing them to dictate responses, engage in discussions, and operate digital devices using voice commands.

The sample mentioned also the Automated Captioning and Transcription as AI-powered tools that can automatically generate captions for videos and transcribe audio recordings, which are specifically beneficial for students who are Deaf or Hard of Hearing, providing access to video lectures, online presentations, and multimedia content. Students with Learning Disabilities also use transcripts to review and highlight key information from audio recordings. Captions and transcripts help improve comprehension and retention of students with Cognitive Impairments by providing visual and textual support.

One of the adopted innovations that participants mention is AI-powered personalized learning and adaptive assessments. These platforms analyze student performance data to identify individual learning needs, allowing for tailored instruction and flexible testing. For students with dyslexia, these systems offer customized exercises that target specific challenges, while students with ADHD benefit from assessments that dynamically adjust pace and complexity to maintain engagement. Similarly, students with cognitive impairments receive information broken down into manageable steps, ensuring a smoother and more supported learning experience.

Equally impactful are AI-driven chatbots and virtual assistants. These tools provide real-time, judgment-free support, especially valuable for students who experience anxiety or have social communication difficulties. Virtual assistants also help students with cognitive impairments manage their time and tasks effectively, offering reminders and organizational support. For students with physical disabilities, chatbots offer remote help navigating university portals and accessing resources, reducing dependence on in-person assistance. Furthermore, advancements in image recognition and alternative text generation are transforming how visual content is accessed. For students with visual impairments, AI can automatically generate descriptive text for images, diagrams, and charts, enabling screen readers to convey this content effectively. This also supports students with cognitive impairments by presenting visual data in clearer, more digestible formats.

As for features of Metaverse integration, interviews with faculty across various UAE universities revealed that Metaverse technologies are beginning to play a transformative role in enhancing accessibility and inclusion for SoDs. One of the most praised features was the ability to customize avatars and sensory settings, which empowers students with physical disabilities to engage in virtual learning activities with greater ease. For those with sensory sensitivities or social anxiety, the ability to tailor auditory and visual inputs or participate anonymously through avatars provides a much-needed sense of control and comfort. Immersive learning environments were also highlighted as particularly valuable for students with autism spectrum disorder (ASD), anxiety disorders, or learning challenges, offering a safe and engaging space where abstract or difficult concepts can be explored through multi-sensory simulations. Respondents also emphasized the power of collaborative virtual spaces, where students who may face physical or social barriers in traditional classrooms can actively participate in group discussions and peer learning. Moreover, accessible navigation tools, including clear visual signage, audio prompts, and customizable interfaces, were found to be beneficial for students with visual, cognitive, or motor impairments, reducing confusion and facilitating smoother exploration of the digital environment. However, faculty also raised valid concerns about the implementation of these technologies, citing financial costs, the need for adherence to accessibility standards, gaps in digital literacy, and issues around data privacy and algorithmic fairness. Despite these challenges, the consensus among participants was that the Metaverse holds significant promise for fostering equity and inclusion in higher education, if deployed thoughtfully and with adequate institutional support.

Collectively, these innovative tools not only foster more inclusive learning environments but also empower SoDs to engage more independently in their academic journeys, enabling them to thrive with greater autonomy and confidence.

3.3 Faculty and Institutional Readiness for Inclusive AI and Metaverse Integration in UAE Higher Education (RQ2)

Faculty play a pivotal role in the successful adoption of new technologies in education. Their knowledge, skills, and attitudes toward both SoDs and assistive technologies are essential for creating inclusive learning environments. For this reason, the authors chose to explore the extent to which faculty and institutions in the UAE are prepared to embrace and effectively implement AI and Metaverse technologies.

AI is widely perceived by faculty members as a valuable asset, particularly in alleviating routine administrative burdens. Tasks such as tracking student attendance, which are now automated through institutional systems, and grading assignments and examinations via platforms like Blackboard, have significantly reduced the manual workload. As a result, faculty are afforded more time to focus on their core academic responsibilities, including research and curriculum development, thereby enhancing overall productivity and job satisfaction. P2 explains “Based on my experience in teaching and training, I can say that AI is no longer just a technical tool, it has become an active partner in the advancement of education,... These technologies greatly reduce administrative workload for faculty, enabling them to focus more on creativity and student engagement.” In the same vein, P3 asserts that “AI tools support faculty by relieving them from traditional tasks that consume much of their time, such as grading and score tracking. Utilizing these tools reduces the workload on instructors and allows them to invest more time and energy in focusing on each student and their specific needs.” P12 also agrees on this: “faculty can save time and effort, while students receive more personalized attention that aligns with their academic level. It is a win - win situation”

Participants P5 and P11, both with a strong focus on teaching, highlighted the transformative impact of AI on instructional practices. P5 emphasized that AI-powered analytical tools offer detailed insights into classroom performance, enabling educators to make data-informed decisions and refine their teaching strategies accordingly. Echoing this perspective, P11 underscored AI's role in driving curriculum innovation, noting that faculty are increasingly leveraging AI to design flexible and future-oriented curricula. These curricula often integrate real-world challenges, interdisciplinary approaches, and emerging technologies, positioning students for success in an evolving academic and professional landscape.

Participant P12 highlighted the powerful role of AI in advancing academic research, noting that AI technologies significantly streamline tasks such as literature reviews, data analysis, and pattern recognition, processes that are typically time-consuming. Tools like Scopus AI and SciSpace.com were mentioned as particularly helpful in saving time and enhancing the depth of literature exploration. Meanwhile, P7 offered a broader perspective that encompasses students, faculty, and institutional operations. According to P7, AI supports universities by automating routine administrative functions such as student registration and course scheduling. This, in turn, allows faculty to dedicate more time to research and teaching, thereby increasing overall academic efficiency and improving the quality of education delivered.

For the perceived readiness of faculty to support the inclusive integration of AI and Metaverse tools in education, participants generally expressed similar viewpoints. While their statements reflected a sense of optimism and growing interest, there was a clear consensus on the need for more robust and coordinated efforts to strengthen faculty preparedness and institutional support for the effective adoption of these technologies across UAE universities. At the same time, P12 emphasized that in order to fully capitalize on the opportunities offered by AI, institutions must prioritize investment in faculty training, establish clear ethical frameworks, and build infrastructure that enables the responsible and effective integration of AI across all academic disciplines. Similarly, P9 highlighted that although many faculties are increasingly enthusiastic about adopting AI and Metaverse technologies, significant variation exists in their actual preparedness. This underscores a critical need for well-structured training programs that not only cover technical skills but also address pedagogical strategies, particularly those aligned with universal design principles and accessibility. P9 also stressed the importance of organizing dedicated workshops that guide educators on how to utilize AI and Metaverse tools to better serve students with diverse learning needs.

It is important to emphasize that a general enthusiasm among educators for integrating AI and Metaverse technologies into higher education was clear. However, this enthusiasm is tempered by a clear recognition of the need for structured training and institutional support to ensure their effective implementation. Not all participants feel themselves ready to embrace these advanced technological tools; regular focused trainings are needed.

4. RISKS AND NEGATIVE CONSEQUENCES OF AI AND METAVERSE INTEGRATION

Although participants generally recognized the positive potential of AI and Metaverse technologies, they also identified several risks and negative consequences that require careful attention. Despite the considerable opportunities associated with AI and Metaverse technologies, participants highlighted several concerns that should be addressed before large-scale implementation. One recurring issue involved data privacy, particularly when educational systems collect information related to students' disabilities, learning behaviour, or psychological support requirements. Participants stressed that such information should be protected through clear governance frameworks and transparent consent procedures.

Another concern involved algorithmic bias. Respondents warned that AI systems developed using limited or non-representative datasets may unintentionally disadvantage some groups of learners, including SoDs. Several participants emphasized that accessibility should be embedded in the design process rather than added as a secondary feature.

Participants also discussed challenges related to academic integrity. Some faculty members reported growing concerns about students becoming overly dependent on generative AI tools for completing assignments and projects. In

communication and media studies, where originality, creativity, and critical thinking are essential learning outcomes, excessive reliance on AI may reduce opportunities for students to develop these competencies independently.

Participants also raised concerns about cost and unequal access. Advanced AI and Metaverse systems require financial investment, infrastructure, technical support, and faculty training. As a result, well-resourced universities may be able to adopt these technologies more quickly than smaller or less-resourced institutions. This may create new forms of inequality between institutions and between students. P1, P3, P9, P11, and P12 voiced concerns that AI, if not implemented thoughtfully, could unintentionally reinforce existing educational inequalities, particularly by widening the gap between institutions with varying levels of access to resources and infrastructure.

As shown in Figure 3, the challenges identified by participants are multidimensional, combining ethical, pedagogical, financial, and institutional concerns.

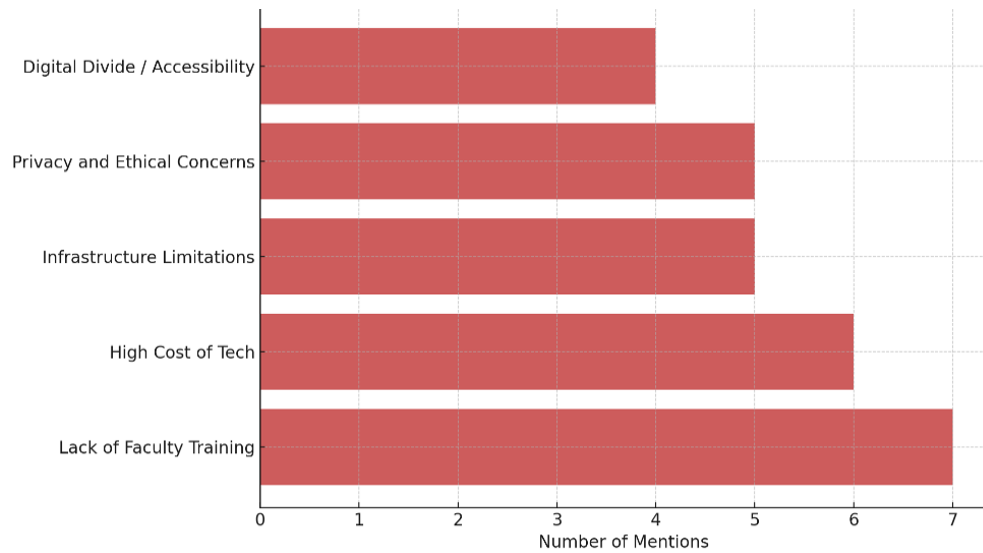


Fig. 3. Challenges in implementing AI tools in UAE Universities to Support SoDs

5. DISCUSSION

The findings suggest that AI and Metaverse technologies have the potential to expand educational opportunities for SoDs within communication and media studies programs. Participants identified several tools that may enhance accessibility, including speech recognition systems, automated captioning, adaptive learning platforms, and virtual assistants. In addition, immersive virtual environments may provide alternative ways for students to participate in activities such as media production, newsroom simulations, and collaborative communication projects.

While the findings of this study indicate the potential use of both AI and Metaverse technologies within higher education communication studies programs, it was also revealed that the readiness of the faculty within these programs to learn of and to utilize such technologies is crucial to enabling such a shift towards more inclusive educational offerings. While many of the expert participants discussed their enthusiasm for these technologies, they also expressed the need for training of the faculty members within their departments to learn of their abilities to incorporate such technologies into their education programs.

Furthermore, the relevance of the Social Model of Disability was observed within the findings of this study. Many of the challenges that were discussed related to SoDs were not the result of the disabilities that they possess, but related to barriers within the education system itself. These various barriers include challenges to accessing the technologies, training of the teachers, accessibility in Arabic languages, infrastructure, and the cost of implementing these technologies into the existing education systems within the UAE.

5.1 Limitations and Future Research

Several limitations should be considered when interpreting the findings of this study. First, the research relied on a relatively small group of experts representing selected UAE higher education institutions. While these participants provided valuable professional insights, their perspectives cannot be assumed to represent all institutions or stakeholders across the country. Moreover, the study did not investigate actual classroom implementations of these technologies. Observational studies and case-based research could provide deeper insights into how AI and Metaverse applications function in real educational

settings. Finally, issues related to digital sovereignty and the origin of AI platforms used within UAE universities were beyond the scope of the current study. Given the growing importance of national AI strategies, this topic represents a promising direction for future research.

6. CONCLUSION

This study explored expert perspectives on the role of AI and Metaverse technologies in supporting inclusive higher education within the UAE, with particular attention to communication and media studies. The findings indicate that these technologies offer promising opportunities for improving accessibility, personalization, and participation for SoDs. At the same time, successful implementation depends on faculty preparedness, institutional commitment, and the availability of appropriate technological and ethical frameworks.

Participants emphasized that inclusion is not achieved through technology alone. Rather, it requires coordinated efforts involving educators, administrators, disability support services, and technology specialists. Addressing concerns related to privacy, accessibility standards, academic integrity, and resource allocation will be essential if AI and Metaverse technologies are to contribute meaningfully to more inclusive and equitable higher education environments in the UAE. Finally, this research study indicates that the integration of AI and the Metaverse within the higher education systems of the UAE will require the efforts of various groups within the universities (students, teachers, disability support services, IT departments, administrators). By incorporating these technologies, the education of these particular students can be made more accessible, and they can have better opportunities to succeed within their education.

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CRedit Authorship Contribution Statement

Thouraya Snoussi: [Conceptualization, methodology, investigation, supervision, formal analysis, writing, review & editing]. Mohamed Hasaan Abdulzاهر: [literature review, data collection, data curation, formal analysis]. Omer Jawad Abduljabbar: [Investigation, data collection, data curation, formal analysis, validation]. Ahmed Rayan Kaidi: [Data collection, data curation, visualization, reference management, formatting]. All approved the final manuscript before submission.

Conflicts of Interest

The authors declare no conflicts of interest.

Ethical Approval

This study was conducted in accordance with established ethical principles for research involving human participants. Ethical approval was obtained from the UoS Research Ethics Committee. Participation was voluntary, and informed consent was obtained from all 12 participants prior to the semi-structured interviews. Participants were informed about the purpose of the study, their right to withdraw, and the confidentiality of their responses. All interview data were anonymized to protect participants' identities.

Data Availability Statement

The interview data are not publicly available because they may contain information that could identify participants. The supporting data may be shared upon reasonable request, subject to participant consent.

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