

Artificial Intelligence and Higher Education Transformation: The UAE Model for Inclusive and Innovative Learning

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ABSTRACT

The research discussed the impact of artificial intelligence on enhancing the adoption of inclusive and innovative learning. A deductive approach was adopted from the previous theories and studies through quantitative data gathered from 384 faculty members, university students, decision-makers, and education stakeholders in the United Arab Emirates. The researcher adopted a structured questionnaire to collect data. The results revealed that inclusive learning enhanced educational equity and equal opportunities and increased student academic engagement. Adopting innovative learning strategies, such as artificial intelligence and interactive digital technologies, contributes to nurturing critical and creative thinking skills among students. The results revealed that artificial intelligence efficiently contributed to corroborating the inclusive learning within the higher education institutions, since these technologies help provide a resilient educational environment that responds to the students' diverse needs. The results revealed that artificial intelligence mainly contributed to improving the innovative learning styles in higher education institutions, since these technologies provide smart educational tools that support creativity. The researcher recommended enhancing investments in educational AI technologies to support the digital transformation of higher education institutions in the UAE.

Keywords: Artificial Intelligence - Higher Education Transformation - The UAE Model – Inclusive Education - Innovative Learning.

INTRODUCTION

Artificial intelligence (AI) has been a game-changer for more than ten years (Center for Innovation, Design, and Digital Learning, 2024). Higher education is one of the many facets of society that AI has changed (Ghnemat et al., 2023; Katsamakos et al., 2024). Higher education can be transformed significantly due to AI, a new technology that is developing quickly (Becirovic & Mattos, 2024; Schmidt et al., 2025). This can be achieved through creating more inclusive and innovative learning opportunities (Bhatnagar & Sharma, 2025; Mallillin et al., 2025). The nexus between AI and inclusive education presents a compelling way to use technology to meet a range of learning needs as the world works toward more inclusive educational practices. Inclusive learning is key to creating a more just and equal society. Additionally, educational systems must aim to improve the standard and equity of instruction for all students (Gupta & Kaul, 2024). By enabling the customization of instructional materials, the automation of tutoring, and the prediction of possible academic challenges, its integration promotes more equitable access to knowledge. It takes into account the variety of learning styles. Innovative learning practices are also encouraged by AI as it helps to optimize academic and curriculum management, assisting in the

removal of obstacles associated with accessibility as well as linguistic and cultural disparities (Copaja et al., 2025; Katsamakas et al., 2024).

Problem Statement

Tamphu et al. (2024) show that developed nations like the US, China, and the UK dominate Research on artificial intelligence in education. There is a dire need to conduct AI research in Arab countries, especially considering that AI is revolutionizing teaching, learning, and administrative procedures in higher education in the Gulf Cooperation Council (GCC) (Bugawa et al., 2025). AI integration in educational systems has piqued the interest of the United Arab Emirates (UAE) since it aligns with its development objectives to modernize the facilities and procedures used in the educational sector (Al-Jenaibi, 2024). Khadragy et al. (2024) found that using AI technology in UAE higher education institutions offers numerous advantages. AI technology instantly gives each student accurate information about his or her own strengths and shortcomings, as well as trustworthy feedback on assignments. These technologies can identify issues, determine errors, and analyze them. It was discovered that AI technologies enhance students' academic performance by providing them with infinite academic references. The United Arab Emirates (UAE) and other higher education systems face opportunities and challenges due to AI's rapid advancement. AI has the potential to revolutionize teaching, learning, and institutional management by promoting creativity, individualization, and inclusivity, its adoption in higher education is still uneven and fragmented. In the case of the UAE, where building a knowledge economy is key to attaining the national agenda for innovation, there is no overall plan to implement artificial intelligence (AI) across all higher education institutions to generate new approaches to teaching that advance equity in learning outcomes while aligning AI use with institutional and national objectives. Therefore, this study investigates how a strategic approach to using AI in higher education can produce pedagogical innovations that promote equitable access and institutional alignment.

Research Questions

- "What is the impact of the implementation of Artificial Intelligence in Higher Education in the UAE?"
- "What is the level of inclusive learning in higher education in the UAE?"
- "What is the level of innovative learning in higher education in the UAE?"
- "Does the implementation of artificial intelligence have a statistical significance at the significance level of ($\alpha \leq 0.05$) on inclusive learning?"
- "Does the implementation of artificial intelligence have a statistical significance at the significance level of ($\alpha \leq 0.05$) on innovative learning?"

Research Objectives

- "Determine the impact of the implementation of Artificial Intelligence on Higher Education in the UAE."
- Identify the level of inclusive learning in higher education in the UAE."
- "Evaluate the level of innovative learning in higher education in the UAE."
- "Verify the statistical significance at the significance level of ($\alpha \leq 0.05$) for the implementation of artificial intelligence on inclusive learning."
- "Validate the statistical significance at the significance level of ($\alpha \leq 0.05$) for the implementation of artificial intelligence on innovative learning."

Research Significance

The research fills existing gaps in literature by placing the discussion in the UAE context, where the national AI strategy, multicultural student population, and vision for a knowledge-based economy create a distinct context to explore AI in higher education, which will add to the existing body of knowledge on AI in higher education, with the potential to inform policy development, guide investment in digital infrastructure, and support professional development initiatives to prepare faculty and students for AI-driven learning environments. The findings of this research can guide UAE policymakers, institutional leaders, and educators on how best to integrate AI into higher education to create more inclusive, innovative, and quality learning environments, thereby overcoming barriers such as faculty readiness, ethical concerns, and governance challenges, and ensuring the UAE remains globally competitive in higher education.

Theoretical Framework

In order to explain how innovations, like AI tools, proliferate within a social system, “Diffusion of Innovation Theory (DIT)” strongly emphasizes the function of social influence, communication channels, and the perceived qualities of the innovation. DIT outlines six elements that contribute to a new technology's social diffusion. “One of the main factors influencing DIT is the relative advantage—the extent to which a technological innovation is thought to be better than the existing technology”. Additionally, DIT states that for a technological innovation to spread throughout society, a “critical mass” must adopt it (Rogers, 1962). AI technologies have had an impact on many facets of our society (Polak & Anshari, 2024). In higher education, the use of AI tools by college students has surpassed the critical mass (Farhi et al., 2023). AI tools have been shown to support students' learning through feedback, group projects, and independent study (Biggs et al., 2022).

LITERATURE REVIEW

The future of education will be drastically changed by AI in education, which includes the creation of AI-based technological platforms, cooperation with educators, and the administration of the current classroom environment (Ghnemat et al., 2023). Artificial intelligence (AI), perhaps the most transformative technology of the past few decades, is changing education by reshaping pedagogical practices and redefining curriculum, academic, and administrative management in higher education, which has led to more flexible, adaptive, and student-centered educational models that enable personalized learning pathways that more closely align with the diversity of cognitive styles, assimilation rates, and individual needs (Copaja et al., 2025). The promise of bringing higher education closer to the goal of personalized AI assistants that assist students, faculty, and administrators is one of the opportunities for AI transformation presented by generative AI advancements (Katsamakos et al., 2024).

Artificial Intelligence & Inclusive Education

UNESCO has been tasked with spearheading and coordinating the “Education 2030 Agenda, a global initiative to end poverty by 2030 through implementing 17 Sustainable Development Goals. Since education is crucial to achieving these objectives, Goal 4 explicitly addresses it, aiming to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”. (Liu et al., 2023). The “Salamanca Statement” on Special Needs Education was published twenty-five years ago (UNESCO, 1994).

The movement for inclusive education has accelerated since its declaration. The movement has evolved from its historical foundation in rights-based advocacy to the current era of rights-based legislation. The way and location of education for students with disabilities could change significantly due to this significant shift (Bruin, 2019). AI has the potential to significantly improve accessibility and inclusivity for students with disabilities in higher education by removing barriers to learning and academic participation (Gautam & Gupta, 2025). Students with various needs are taught in the same environment in inclusive education. It is anticipated that as AI technologies develop, they will further support an inclusive learning environment that caters to the unique requirements of a diverse student population (Toyokawa et al., 2023).

Assistive technologies and increasingly personalized learning experiences enabled by new AI technologies can help educators meet the individual learning needs of this diverse student population. As the technologies become more integrated into classrooms, they offer a unique possibility to change education for all students (Center for Innovation, Design, and Digital Learning, 2024). Adaptive and personalized learning systems, intelligent tutoring systems, and comprehensive education management information systems are all made possible by major AI technologies like machine learning, natural language processing, deep learning, expert systems, machine vision, and data analytics. Innovations, data-driven decision-making, timely interventions for at-risk students, personalized education, and curriculum that is more inclusive, effective, and accessible for all students, regardless of background or social class, are all made possible by these technologies (Iweuno et al., 2024).

This will contribute to lower dropout rates and better student retention. In order to optimize and expedite the learning process, content personalization will also accommodate various learner styles, preferences, and requirements. Other special features of educational recommendation systems include dynamic curriculum design for graduate and undergraduate programs and suitable assessment tools for certificate outcomes (Ghnemat et al., 2023). AI is considered an important tool in inclusive education for making content accessible and tailoring instruction for students with disabilities. Its applications can be summarized as follows:

I. Intelligent Tutoring Systems

Intelligent tutoring systems (ITSs) are computer-based educational programs incorporating artificial intelligence techniques to personalize instruction and support for students based on their traits. ITSs can adapt learning experiences for each student by providing feedback, making recommendations, displaying adaptive learning materials, assessing student performance, and guiding decision-making in a variety of educational domains through web-based or mobile-based user interfaces that direct students to additional reinforcement materials, guide

them in pacing themselves, suggest particular courses, and report back to teachers on student progress (Mousavinasab et al., 2018; Liu et al., 2023).

II. AI Chatbots

Chatbots are AI systems or programs usually used to interact with users, provide information, or respond to inquiries. Chatbots improve student access by personalizing a pathway of study and automating research and educational functions. They are usually made to simulate a human conversation or text exchange. They can be implemented on websites, messaging apps, and virtual assistants (Labadze et al., 2023) to understand and respond to user input, provide recommendations, and perform tasks, making them a common feature of customer service, virtual assistants, and educational settings (Center for Innovation, Design, and Digital Learning, 2024).

III. Assistive Technologies and Accessibility

Students with disabilities can benefit from increased autonomy and accessibility through assistive technologies driven by artificial intelligence (Center for Innovation, Design, and Digital Learning, 2024). In this context, several targeted and practical tactics are proposed in order to directly address the issues noted:

- Putting in place ongoing training initiatives in AI and digital literacy for educators and families, encouraging moral data usage and technological adoption;
- Forming public-private partnerships to finance the facilities and give educators in areas with limited resources specialized training;
- Establishing cooperative networks and communities of practice that enable educational institutions in various contexts to share best practices and experiences;
- Implementing inexpensive technology (like open-source software or more basic gadgets) to reduce access disparities and guarantee sustainability. Furthermore, to develop context-sensitive solutions that tackle the particular difficulties of various educational contexts, educators, legislators, and technology developers must collaborate and conduct interdisciplinary research (Melo-López et al., 2025).

Artificial Intelligence & Innovative Learning

Higher education institutions today must create innovative teaching and learning methods to keep up with technological advancements (Uwah & Ododo, 2021). AI has the potential to completely reshape teaching, learning, and administrative processes in higher education (Allam et al., 2025). Innovative learning aims to develop lifelong learners by shifting from a teacher-centric to a learner-centric model (Bhatnagar, 2020). Students must be taught creativity, teamwork, resilience, empathy, and life survival skills to contribute to society. In order to improve the development of learning resources, big data emerging technology with analytical processes offers unique benefits for transforming information patterns that fit into creative learning environments. The data extraction value prototype and model could be improved to make it easier for the learning environment to support implementation easily and conveniently (Huda, 2018).

To get a broad picture of a student's learning, instructors and course administrators can use it to examine usage data and course activities. The two primary methods applied most frequently for this task are statistics and information visualization (Goyal & Vohra, 2012). Technology related to AI has emerged as one of the most potent instruments for educational reform. Innovative applications in various fields, including instructional material design, student progress tracking, and learning process improvement, are made possible by these technologies. By closely examining each student's unique development, AI systems offer prompt and tailored feedback, especially in assessment and evaluation procedures (Ministry of National Education, 2025).

In order to identify potential barriers between academic success and social adaptation, these AI-supported assessment systems evaluate students not only in the classroom or school environment but also in the context of their larger social surroundings (Baidoo-Anu & Ansah, 2023). Students can thus be evaluated holistically, considering social skills, community integration, and academic achievement. Personalized solutions that help students reach their full potential can be created through thorough analyses, and proactive support systems can be put in place by foreseeing potential future difficulties (Ministry of National Education, 2025).

Policymakers aim to create a state-of-the-art, innovative learning environment that uses digital intelligence technologies, emphasizing "student-centered" education. This cutting-edge area is intended to support individualized learning, promote research projects, and give students real-world experiences. The goal is to develop instructional strategies encouraging constructive and lively interactions between teachers and students. Researchers are dedicated to continuous practice and research in situational, game-based, and project-based learning by incorporating cutting-edge teaching resources and techniques, like research tools and intelligent support systems (Xu & Li, 2025). AI will boost student engagement, enrollment, and funding while encouraging innovation in higher education institutions (Sharawy, 2023; EL Imadi et al., 2023). Applications to achieve these issues include:

i. Interactive Ecosystems

Collaborative learning environments nurtured by “living intelligence” provide opportunities for AI and students to work together to find solutions and develop innovative ideas that can be applied in real-world scenarios with human–AI partnerships. Living intelligence can “enable fully integrated educational systems” to function dynamically across different institutional departments, connecting research labs, libraries, administrative buildings, and classrooms in real time for in-the-moment communication and information sharing by tracking usage trends in the library, recommending relevant materials to students, and ensuring fair access to popular materials (Allam et al., 2025).

ii. Emotionally Intelligent AI

Emotionally intelligent AI systems that “recognize, interpret, and respond to emotions” have been developed to raise the standard for human-computer interaction (HCI), which is the field that studies how people interact with computers (Akhtar et al., 2025). Emotionally intelligent AI could assess a student's emotional state and level of engagement by analyzing their behavioral cues, voice tones, and facial expressions. Based on the results, it could then provide tailored interventions, modify instruction to meet the needs of each individual student, or even provide mental health support. By encouraging a sense of community and engagement among distant learners, emotionally intelligent AI holds promise for increasing the efficacy of digital learning (Allam et al., 2025).

iii. Immersive Learning Environments

AI-powered virtual and augmented reality (VR/AR) can transform education into a more interactive experience (Konara et al., 2025). AR enhances user experiences in educational applications and enables dynamic interaction with the real world, real-time object recognition, and spatial mapping through the use of AI algorithms (Akinleye, 2022). By enhancing engagement, interactivity, and knowledge retention through real-world virtual experiences, immersive learning in higher education is being enhanced through the use of dynamic, interactive simulations produced by AI-driven VR and AR. In disciplines like engineering, medicine, and the humanities, these technologies are being used to investigate intricate ideas. AI-powered adaptive learning maximizes each student's learning rate, customizes the content for them, and gives them immediate feedback. AR adds digital data to the real world for enhanced contextual understanding, VR provides simulated environments where students can practice without consequence, AI further personalizes learning by assessing student progress and adjusting difficulty levels accordingly, and all of these technologies enable innovative practices to prepare students for the real world (Mande & Bhaskar, 2025).

iv. Resource-Sharing Networks

Higher education institutions could use AI to create international resource-sharing networks that would give faculty and students access to shared online courses, digital libraries, and collaborative research tools from other universities. By removing institutional and geographic barriers, these AI-powered networks would maximize resource efficiency and foster knowledge sharing (Gorbounov & Chen, 2024; Allam et al., 2025). By automating the matching and analysis of metadata, AI-capable systems increase the accuracy of resource sharing. This guarantees that, even in cases where requested items have different cataloging conventions, users will receive precisely the required materials. Libraries can anticipate possible bottlenecks by using AI to predict the availability of resources within a network. A predictive model could, for instance, predict a likely spike in demand for particular materials during exam periods, enabling libraries to modify allocations appropriately (Ikwanusi et al., 2022).

Requirements for Effective AI-powered Inclusive and Innovative Practices

Addressing any possible scalability and content quality concerns is imperative. The biggest challenge is ensuring that AI-supported educational systems continue to deliver relevant, quality content and can scale to serve a large and diverse student body, and research and development into dynamic, scalable curriculum models that balance individualization and broad accessibility. Solving these challenges will enable AI to develop a more adaptable, effective, and inclusive educational system that will prepare students to succeed in a more complex and connected world (Iweuno et al., 2024). There are challenges to adopting AI to enhance training, including ethical considerations (e.g., how to address potential bias in AI algorithms and the impact on instruction integrity), issues around plagiarism and AI-generated content, and the challenge of pedagogical version needed to implement AI to successfully integrate AI into teaching practices (due to resistance to change or lack of training) (Bugawa et al., 2025).

A specific approach to changing the culture of educational institutions is necessary for a successful transformation. This can be achieved through:

- Encouraging students to think more critically and to solving problems at higher levels;
- Students should be prepared for the increasingly digital, automated, and robotic labor market;
- Teaching students how to look for, gather, arrange, assess, and use data from a variety of sources, including AI platforms, in an efficient manner;
- Training students to live in a highly digitalized world outside of the school;

- Enhancing teachers' and students' digital and AI literacy as well as their digital skills and competencies, since these are essential human abilities in today's world (Becirovic & Mattos, 2024).

Worthy here mentioned that “promoting collaboration among educational researchers, practitioners, and industry stakeholders is crucial to ensuring that AI-driven educational solutions align with educational principles and objectives”. Ultimately, continuing research and interdisciplinary discussion are necessary to improve AI's credibility for users, debunk myths, and encourage responsible AI use. By encouraging cooperation, we can use AI to promote customized learning paths while respecting moral principles and optimizing gains for all parties involved (Imran et al., 2024).

METHODOLOGY

The grounds of the research were constructed based on the positivist philosophy, which indicates that phenomena can be statistically assessed and analyzed to conclude objective results. Since the research objective is to measure the impact of artificial intelligence on achieving comprehensive and innovative educational transformation in higher education in the UAE, the positivist approach was the most appropriate for this research. Additionally, a deductive approach was adopted from the previous theories and studies to establish specific hypotheses and test them in the field through quantitative data gathered from sample.

The researcher adopted the structured questionnaire to collect data from a sample composed of faculty members and students in higher education institutions in the UAE. The questionnaire was carefully designed to cover the three axes of the research, namely: Artificial Intelligence in Higher Education, Inclusive Learning, and Innovative Learning. The researcher adopted a mono-method quantitative approach and only used the questionnaire as a key tool to collect data. Choosing this approach reflects the positivist orientation of the study, as it concentrates on the digital data and the statistical analysis to arrive at accurate results.

The researcher used the cross-sectional analysis since the data collection was conducted at a single point in the academic year 2024/2025 to obtain a comprehensive image of the status quo of higher education in the UAE in terms of the adoption of artificial intelligence. The questionnaire was designed, its "validity and reliability" were affirmed using the Cronbach Alpha coefficient, and data were collected electronically from the study population. Thereafter, the researcher statistically analyzed data using SPSS software employing the descriptive statistical methods (means and standard deviations) and deductive methods (testing hypotheses) to conclude and interpret the results.

Research Population and Sample

Faculty members, university students, decision-makers, and education stakeholders in the United Arab Emirates formed the population of this study. The researcher used simple random sampling to collect the sample, which consisted of (384) individuals from the population, according to the sample size formulation prepared by Cochran (1963), as follows:

$$n = \frac{Z^2 * P * (1 - P)}{E^2} = \frac{(1.96)^2 * 0.5 * (1 - 0.5)}{(0.05)^2} = \frac{3.8416 * 0.25}{0.0025} = 384.16$$

which symbols are interpreted as follows:

n	:	The required sample size.
Z	:	The Z-score corresponds to the confidence level 95%, which equals (1.96)
P	:	The estimated proportion of a specific feature in the population, which equals (0.5).
E	:	The accepted standard margin of error, which equals (0.05)

Third: Research Sample Characteristics

The Research Sample Characteristics:

The Frequencies and percentages of the general data of the respondents were reckoned, as illustrated in the representative data (Gender and Job Title):

1- Respondents Segmentation According to their characteristics:

Table (1) Respondents Segmentation as per their characteristics

"Gender"	"Frequencies"	"Percentages"
Male	215	56.0%
Female	169	44.0%
Total	384	100%
Job Title	Frequencies	Percentages
Faculty Member	79	20.6%
University Student	195	50.8%
Postgraduate Student	43	11.2%

Administrative Officer	67	17.4%
Total	384	100%

The preceding data indicates that the largest percentage of respondents, as per "Gender," was (56.0%), which was obtained by (Male), whereas the least percentage was (44.0%), which was obtained by (Female). In terms of (Job Title), the largest percentage of sample individuals was (50.8%), which was obtained by the (University Student) category, followed respectively by (20.6%), which was obtained by the (Faculty Member) category, and (17.4%), which was obtained by the (Administrative Officer) category, whereas the least percentage was (11.2%), which was obtained by the (Postgraduate Student) category.

Fourth: Research Tool

A questionnaire was designed to reveal the role of "artificial intelligence" in higher education through examining the UAE model for inclusive and innovative learning, verified its "validity and reliability" using multiple methods, such as the arbitrators' validity, whereby it was submitted to a group of expert arbitrators to review its linguistic formulation and the clarity of the statements, the affiliation degree of each statement with the questionnaire, some statements were rephrased or deleted as agreed upon by (80%) of the arbitrators; thus, the final edition of the questionnaire consisted of (30) statements distributed over three axes, additionally, the questionnaire validity and reliability were verified by applying it to a pilot sample composed of (30) respondents from the study population as follows:

- **First Axis: Artificial Intelligence:** The "internal consistency validity" was affirmed by reckoning the "Pearson correlation coefficient" between the scores of each statement in the axis and the total score of the dimension it affiliates with, since the correlation coefficients scored high values falling in the range of (.876**-.719**) and they were statistically indicative at the significance level of (0.01). "The general construct validity" of the axis's dimensions was verified by finding "the correlation coefficients" between the dimensions and the overall degree of the axis; they fell in the range of (.819**-.786**), and they were statistically indicative at (0.01) level of significance. "The Cronbach's Alpha" method was utilized to estimate the reliability of the axis's dimensions and the overall degree of the axis. The Cronbach reliability coefficients of the axis's dimensions ranged between (.901-.884), and the "overall reliability coefficient" of the axis was (.918), which suggests that the questionnaire can be empirically applied and its findings are trustworthy.
- **Second Axis: Inclusive Learning:** "The internal consistency validity" was affirmed by reckoning "the Pearson correlation coefficient" between the scores of each statement in the axis and the total score of the axis it affiliates with, since "the correlation coefficients" scored high values falling in the range of (.882**-.826**) and they were statistically indicative at the significance level of (0.01). "The Cronbach's Alpha" method was adopted to estimate "the Cronbach reliability coefficients" of the axis's statements, since the "overall reliability coefficient" of the axis was (.931), which suggests that the questionnaire can be empirically applied and its findings are trustworthy.
- **Third Axis: Innovative Learning:** "The internal consistency validity" was confirmed by estimating "the Pearson correlation coefficient" between the scores of each statement in the axis and the total score of the axis it affiliates with in the questionnaire, since "the correlation coefficients" scored high values falling in the range of (.889**-.746**) and they were statistically indicative at the significance level of (0.01). "The Cronbach's Alpha" method was adopted to estimate "the Cronbach reliability coefficients" of the axis's statements, since the 'overall reliability coefficient' of the axis was (.901), which suggests that the questionnaire can be empirically applied and its findings are trustworthy.

"The five-point Likert scale (strongly disagree, disagree, somewhat agree, agree, strongly agree)" was utilized to recify the study tool, giving the response: "strongly disagree (1), disagree (2), neutral (3), agree (4), strongly agree (5)".

Fifth: "Statistical Methods"

"The Statistical Package for the Social Sciences (SPSS) program" was employed, leading to several conclusion according to the following statistical methods: "Pearson's Correlation Coefficient, The Cronbach's Alpha

Coefficient, Frequencies and Percentages, Arithmetic Means and Standard Deviations, Simple Linear Regression Analysis, and Range Equation", whereby The "response degree" was identified to be as follows: very low (1), Low (2), Moderate (3), High (4), Very High (5), and the verification score for each axis was determined according to the following:

$$\text{"Class Width"} = \frac{\text{Max. Limit} - \text{Min. Limit}}{\text{No. of Levels}} = \frac{5-1}{5} = 0.80"$$

"Analysis of Research Results"

First: Demonstration, exploration, and analysis of the first question: "What is the impact of the implementation of Artificial Intelligence in Higher Education in the UAE?"

"The arithmetic means and standard deviations" for the first axis's dimensions, "Artificial Intelligence", were reckoned. The statements were then organized in a downward order as per "the arithmetic mean" of each dimension, as follows:

"Table (2) The arithmetic means and standard deviations of the first axis's dimensions, Artificial Intelligence"

No.	Dimensions	Mean	SD	Response Degree	Rank
1	Neural Networks	3.97	1.160	high	2
2	Deep Learning	3.68	1.126	high	3
3	Natural Language Processing	4.04	1.098	high	1
"Overall Mean"		3.90	1.067	high	

The aforementioned data indicates that the "Overall Mean" of the first axis, "Artificial Intelligence," achieved an "arithmetic mean value" (3.90), "a standard deviation" (1.067), and a (high) "response degree".

This (high) response degree for the first axis can be due to the fact that the implementation of artificial intelligence technologies contributes to enhancing the quality of education and scientific research, facilitating academic and administrative decision-making based on accurate data, in addition to improving innovation and raising the institutional performance efficiency. The results revealed that the academic community in the UAE is ready to cope with global technological advances and is prepared to adopt smart applications that align with the state's entrepreneurial and innovative vision.

Hereinafter, the dimensions of the first axis, "Artificial Intelligence," will be addressed in more detail

"First Dimension: (Neural Networks)"

"The arithmetic means and standard deviations" for the first dimension's statements (Neural Networks) were reckoned. The statements were then organized in a downward order as per "the arithmetic mean" of each statement, as follows:

"Table (3) The frequencies, Percentages, arithmetic means, and standard deviations of the participants' responses to the first dimension: (Neural Networks)"

"No."	"Statements"	"Mean"	"SD"	"Rank"	"Response Degree"
1	Smart systems help me identify the patterns of my academic performance.	3.65	1.508	6	high
2	Some university systems depend on human brain-like technologies.	3.87	1.409	4	high
3	Digital platforms use my data to predict my academic achievement level.	3.78	1.478	5	high
4	AI applications contribute to identifying my educational needs.	4.28	1.285	1	Very high
5	Neural networks facilitate the processing of a huge amount of students' data.	4.08	1.420	3	high

6	I benefit from smart analytics in improving academic vulnerabilities.	4.18	1.352	2	high
Overall		3.97	1.160	high	

The previously demonstrated data revealed that the "Overall Mean" of the first dimension, "Neural Networks," scored an "arithmetic mean value" (3.97), "a standard deviation" (1.160), and a (high) "response degree".

This (high) response degree for the first dimension can be due to the fact that employing this technology in higher education can contribute to improving teaching methods, supporting research analysis, and developing smart systems for academic and administrative guidance. Furthermore, it highlights the readiness of the academic community in the UAE to leverage neural networks to develop innovative and advanced educational solutions, which is in line with the country's vision to enhance the global pioneering role in artificial intelligence.

- **Second Dimension: Deep Learning**

"The arithmetic means and standard deviations" for the second dimension's statements (Deep Learning) were reckoned. The statements were then organized in a downward order as per "the arithmetic mean" of each statement, as follows:

"Table (4) The frequencies, Percentages, arithmetic means, and standard deviations of the participants' responses to the second dimension: (Deep Learning)"

"No."	"Statements"	"Mean"	"SD"	"Rank"	"Response Degree"
7	Some educational systems rely on advanced algorithms to analyze student data.	3.38	1.417	6	Moderate
8	DL technologies help me obtain accurate learning recommendations.	3.79	1.498	3	high
9	The content provided to me is developing constantly thanks to artificial intelligence.	3.58	1.500	4	high
10	The university uses DL to provide more efficient educational solutions.	3.91	1.437	2	high
11	Artificial intelligence systems support predicting my academic progress.	3.46	1.484	5	high
12	DL technologies contributed to raising the efficiency of academic platforms.	3.99	1.438	1	high
Overall		3.68	1.126	high	

The previously demonstrated data revealed that the "Overall Mean" of the second dimension, "Deep Learning," scored an "arithmetic mean value" (3.68), "a standard deviation" (1.126), and a (high) "response degree".

This (high) "response degree" for the "second dimension" can be due to the fact that the adoption of deep learning (DL) technologies can contribute to developing smart educational systems capable of customizing learning styles to suit students' needs, improving the accuracy of predicting academic performance, and supporting scientific research in complex fields. This finding also highlights the willingness of various segments of the academic community to leverage deep learning to foster innovation and achieve educational and research outcomes that align with the country's vision to enhance the global pioneering role in artificial intelligence.

- **Third Dimension: (Natural Language Processing)**

"The arithmetic means and standard deviations" for the third dimension's statements (Natural Language Processing) were reckoned. The statements were then organized in a downward order as per "the arithmetic mean" of each statement, as follows:

"Table (5) The frequencies, Percentages, arithmetic means, and standard deviations of the participants' responses to the third dimension: (Natural Language Processing)"

"No."	"Statements"	"Mean"	"SD"	"Rank"	"Response Degree"
13	I interact with intelligent assistant systems using natural language.	3.74	1.482	6	high
14	Artificial intelligence technologies help me automatically correct my text.	3.96	1.415	4	high

15	University applications support instant translation from and into various languages.	3.86	1.406	5	high
16	Systems respond to my queries in a way that closely resembles human interaction.	4.33	1.277	1	Very high
17	Natural language processing facilitates my participation in multilingual activities.	4.12	1.371	3	high
18	I rely on AI-powered tools to understand complex educational texts.	4.26	1.276	2	Very high
Overall		4.04	1.098	high	

The previously demonstrated data revealed that the "Overall Mean" of the third dimension, "Natural Language Processing," scored an "arithmetic mean value" (4.04), "a standard deviation" (1.098), and a (high) "response degree".

This (high) response degree for the third dimension (NLP) can be due to the fact that these technologies can be a game changer in the development of machine translation systems, academic text analysis, and providing intelligent assistance to students and researchers, as well as facilitating access to multilingual knowledge. Furthermore, this high response degree underscores the academic community's readiness to adopt NLP applications to improve the quality of education and scientific communication, which aligns with the country's orientation towards innovation and the implementation of artificial intelligence in different sectors.

"Second: Demonstration, Discussion, and analysis of the second question: What is the level of inclusive learning in higher education in the UAE?"

"The arithmetic means and standard deviations" for the second axis's statements, "Inclusive Learning", were reckoned. The statements were then organized in a downward order as per "the arithmetic mean" of each dimension, as follows:

"Table (6) The arithmetic means and standard deviations of the second axis's statements, Inclusive Learning"

"No."	"Statements"	"Mean"	"SD"	"Rank"	"Response Degree"
19	The university provides equal educational opportunities for all students.	3.47	1.463	6	high
20	Learning environment considers the individual differences among students.	3.74	1.474	3	high
21	The organization supports cultural and social diversity within the classrooms.	3.65	1.510	4	high
22	The academic policies ensure fairness in the distribution of educational opportunities.	3.56	1.469	5	high
23	Educational resources are available to all students without exception.	3.92	1.466	2	high
24	The university encourages the participation of all students in educational activities.	4.19	1.312	1	high
Overall		3.76	1.176	high	

The previously demonstrated data indicates that the "Overall Mean" of the second axis, "Inclusive Learning," scored an "arithmetic mean value" (3.76), "a standard deviation" (1.176), and a (high) "response degree".

This (high) response degree can be due to the fact that inclusive learning contributes to enhancing educational equity and equal opportunities, and leads to increased academic engagement for all students. This outcome aligns with the country's vision of supporting innovation and excellence in education by providing flexible learning environments that integrate modern technologies—such as artificial intelligence—to offer personalized solutions that fulfill the diverse needs of students, thus ensuring a more sustainable and equitable education system. In a related context, Khadragey et al. (2024) found that using AI technology in UAE higher education institutions offers numerous advantages. AI technology instantly gives each student accurate information about his or her own strengths and shortcomings.

"Third: Demonstration, Discussion, and analysis of the third question: What is the level of innovative learning in higher education in the UAE?"

"The arithmetic means and standard deviations" for the third axis's statements, "Innovative Learning", were reckoned. The statements were then organized in a downward order as per the "arithmetic mean" of each dimension, as follows:

"Table (7) The arithmetic means and standard deviations of the third axis's statements, Innovative Learning"

"No."	"Statements"	"Mean"	"SD"	"Rank"	"Response Degree"
25	I use the digital platforms regularly to progress in my university studies.	3.41	1.529	6	high
26	Innovative teaching methods encourage me to think in unconventional ways.	3.55	1.496	5	high
27	The university provides modern technology-based learning styles.	3.62	1.471	4	high
28	Innovative learning increases my engagement motivation.	3.83	1.428	2	high
29	An interactive learning environment enhances my skill development.	3.76	1.462	3	high
30	I use digital educational solutions to facilitate my university experience.	3.97	1.458	1	high
Overall		3.69	1.189	high	

The previously demonstrated data revealed that the "Overall Mean" of the third axis, "Innovative Learning," scored an "arithmetic mean value" (3.69), "a standard deviation" (1.189), and a (high) "response degree".

This (high) response degree can be due to the fact that adopting innovating learning strategies, such as artificial intelligence and interactive digital technologies, contributes to nurturing critical and creative thinking skills among students, enhancing the scientific research effectiveness, and innovative problem solving, this high responsiveness accentuates the extent of consistency between the academic community and UAE's vision in relation to supporting the innovation as a main pillar for development and pioneering in high education. That is to say, AI integration in educational systems has piqued the interest of the United Arab Emirates (UAE) since it aligns with its development objectives to modernize the facilities and procedures used in the educational sector (Al-Jenaibi, 2024).

Fourth: Demonstration, Discussion, and analysis of the fourth question: "Does the implementation of artificial intelligence have a statistical significance at the significance level of ($\alpha \leq 0.05$) on inclusive learning?"

"Simple linear regression analysis" was employed to answer this question, as demonstrated as follows:

Table (8): Artificial Intelligence Impact on inclusive learning

IV	B	Beta	R	R ²	T-Value	T-Sig
Artificial Intelligence	.985	.902	.902 ^a	.813	40.714	.001
DV	Inclusive Learning					
B₀ : Intercept (Constant)	-.085					
Adj R2	.812					
F-Value	1657.603					
F-Sig	.001 ^b					

The precedent data showed that artificial intelligence has a statistically significant impact on inclusive learning. The (R) value was (.902^a) at a significance level of (.001^b), and Artificial Intelligence accounts for (81.3%) of the variance of inclusive learning as per the value of (R²). Furthermore, the (F) value was (1657.603), which indicates

a high explanatory power of the simple linear regression model and its ability to predict the (DV) based on the (IV), and the predictability of the impact of Artificial Intelligence on inclusive learning.

The results revealed that artificial intelligence efficiently contributes to corroborating the inclusive learning within the higher education institutions, since these technologies help provide a resilient educational environment that responds to the diverse needs of the students, including individuals with disabilities or those with individual learning disparities. This result goes in harmony with Iweuno et al. (2024), who confirm that adaptive and personalized learning systems, intelligent tutoring systems, and comprehensive education management information systems are all made possible by major AI technologies.

"Fifth: Demonstration, Discussion, and analysis of the fifth question: Does the implementation of artificial intelligence have a statistical significance at the significance level of ($\alpha \leq 0.05$) on innovative learning?"

"Simple linear regression analysis" was employed to answer this question, as demonstrated as follows:

Table (9): Artificial Intelligence Impact on innovative learning

IV	B	Beta	R	R ²	T-Value	T-Sig
Artificial Intelligence	.963	.872	.872 ^a	.760	34.823	.001
DV	Innovative Learning					
B_0 : Intercept (Constant)	-.066					
Adj R2	.760					
F-Value	1212.669					
F-Sig	.001 ^b					

The precedent data showed that artificial intelligence has a statistically significant impact on innovative learning. The (R) value was (.872^a) at a significance level of (.001^b), and Artificial Intelligence accounts for (76.0%) of the variance of innovative learning as per the value of (R²). Furthermore, the (F) value was (34.823), which indicates a high explanatory power of the simple linear regression model and its ability to predict the (DV) based on the (IV), and the predictability of the impact of Artificial Intelligence on innovative learning.

The results revealed that artificial intelligence mainly contributes to improving the innovative learning styles in higher education institutions, since these technologies provide smart educational tools that support creativity, such as interactive models, realistic simulations, and adaptive learning that fulfill individual student needs. This result is consistent with Allam et al. (2025) who confirm that AI has the potential to completely reshape teaching, learning, and administrative processes in higher education.

Summary of Results

1. The implementation of "Artificial Intelligence" in higher education in the United Arab Emirates scored "an arithmetic mean value" (3.90), "a standard deviation" (1.076), and achieved (high) "response degree".
2. The level of inclusive learning in higher education in the United Arab Emirates yielded "an arithmetic mean value" (3.76), "a standard deviation" (1.176), and achieved (high) "response degree".
3. The level of innovative learning in higher education in the United Arab Emirates yielded "an arithmetic mean value" (3.69), "a standard deviation" (1.189), and achieved (high) response degree.
4. Artificial intelligence has a "statistically significant impact" on inclusive learning. "The (R) value" was (.902^a) at a significance level of (.001^b), and Artificial Intelligence accounts for (81.3%) of the variance of inclusive learning as per the value of (R²).
5. Artificial intelligence has a statistically significant impact on innovative learning. "The (R) value" was (.872^a) at a significance level of (.001^b), and Artificial Intelligence accounts for (76.0%) of the variance of innovative learning as per the value of (R²).

Recommendations

- Enhance investments in educational AI technologies to support the digital transformation of higher education institutions in the UAE.
- Launch specialized training programs for faculty members to enable them to integrate AI tools into their teaching and assessment methods.

- Establish partnerships between universities and technology companies to develop innovative educational solutions tailored to higher education.
- Develop clear ethical and legal policies to ensure the rational use of AI technologies within university campuses.
- Improve applied research in the field of AI and higher education to support the UAE's vision for innovation and knowledge.
- Utilize big data analytics to understand students' learning styles and improve teaching methods and academic guidance.
- Integrate artificial intelligence culture in all academic disciplines to qualify graduates to be capable of dealing with the future work environment.

Research Proposals: Conduct future research about

- Transformation of higher education and institutional sustainability in UAE universities.
Innovative and Inclusive learning approaches to develop the critical thinking skills among UAE university students.

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