# The impact of Artificial Intelligence (AI) on Faculty Engagement in Academic Research

**[1]Nwafor, Angela Ebele & [2]Umetiti, Chidinma Benedicta**
[1]Department of Public Administration, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria
[2]Department of Public Administration, Chukwuemeka Odumegwu Ojukwu University, Anambra State, Nigeria.
Email: [1]ae.nwafor@unizik.edu.ng & [2]cb.umetiti@coou.edu.ng

### *Abstract*

*Despite the recognised potential of Artificial Intelligence (AI), there is limited understanding of how AI literacy training programs influence faculty engagement and how AI tools enhance collaborative interactions among researchers and students. Hence, this study examined the influence of AI on faculty engagement in academic research at Chukwuemeka Odumegwu Ojukwu University, Igbariam, Anambra State. Specifically, it assessed the effectiveness of AI literacy training programs on cognitive engagement and evaluated how the utilisation of AI tools improves emotional engagement among academic staff. The research adopted a descriptive survey design with a sample of 291 academic staff selected using Krejcie and Morgan's formula, and data were collected through structured questionnaires. Descriptive statistics and regression analysis were employed to interpret the data. The results revealed that AI literacy training significantly enhances cognitive engagement, increasing faculty confidence, motivation, and involvement in AI-related research tasks. Emotional engagement was also positively influenced by the use of AI tools, which promoted collaboration, improved communication, and enhanced the quality of peer feedback. However, the study also found a gap between awareness and actual usage of AI tools in academic practice. The findings underscored the need for universities to intensify AI literacy programs, support the practical use of AI tools, and provide ongoing evaluation to sustain engagement. The study concluded that AI, when properly implemented, can serve as a powerful catalyst for faculty development and research productivity in higher education institutions.*

***Keyword.*** *Artificial Intelligence (AI), Faculty Engagement, Academic Research, AI Literacy Training, Collaborative Interactions, Emotional Engagement, Cognitive Engagement*

## INTRODUCTION

Ranging from education to research, artificial intelligence (AI) has become a transforming power, changing many industries. Skill development is any activity or programme designed to enable employees to update and grade their knowledge and competencies (Nwafor, Chukwueloka, Nwumeh & Umetiti, 2024). A worldwide trend changing how research is done, examined, and shared, the incorporation of AI into academic studies (Chen et al., 2020). The convergence of AI and Women Empowerment has attracted much attention in recent years as a vital area of research and intervention; the fast development of AI technology emphasises their capacity to hasten positive changes in 278 other facets of society (Nwafor, Umetiti & Achinike, 2025). Though its actual use among scholars raises several issues, particularly a lack of knowledge and understanding of AI technology. It has great power to change higher education (Chen et al., 2020). Their incorporation into educational environments has become more common as AI technologies develop, therefore providing fresh chances to improve learning and teaching experiences (Al-Jumeily, Hussain, Abuelma'atti, and Tawfik, 2019).

*Nwafor, Angela Ebele & <sup>2</sup>Umetiti, Chidinma Benedicta, 2025, 11(2):100-110*

Many now see AI in scholarly research as a changing factor in higher education. Driven by technology developments improving involvement and simplifying research procedures, the terrain of academic inquiry is changing. From Anambra State to other parts of the world, universities are waking up to the possibilities AI has to raise academic results and support creative research methods.

Recent research emphasises how AI may improve research capacity and educational experiences. A study by Alonta, Onwubuya, and Onwuamaeme (2024), for example, underlined the benefits of AI on learning results and data security in higher education as well as issues like plagiarism and academic integrity. These results imply that although AI offers possibilities for tailored education and enhanced research methods, it also requires a strong framework to maintain academic standards. Research has indicated that digital literacy improves SME performance in several areas. These results highlight the need to increase digital literacy among SMEs to increase their general performance, fit with digital changes, and flourish in the changing corporate environment (Umetiti et al., 2025). Furthermore, a study done with master's students in Portugal reveals that students still use artificial intelligence tools in research tasks quite sparingly. Though they see possible advantages, this study found that many students have not yet completely interacted with AI systems in their academic work. This disparity underlines the need for educational institutions to foster technology literacy and critical thinking abilities among students, so as to equip them for a future in which academic research will be significantly influenced by AI.

It is important to think about how AI may affect academic integrity and ethical research procedures as universities look to include technology into their academic framework. A comparison study of AI policies in higher education institutions, such as those in Singapore, reveals a tendency to change academic integrity standards to fit the usage of AI technology, so guaranteeing that universities not only punish abuse but also encourage responsible AI deployment. Through a recently signed Memorandum of Understanding (MoU) with Bred Hub UB Tech, Chukwuemeka Odumegwu Ojukwu University (COOU) has made a major step toward promoting AI and robotics. Emphasising a shared dedication to improve research and educational prospects in these cutting-edge domains, our partnership seeks to create state-of-the-art facilities and certificate programs to nurture a new generation of tech leaders.

Timely and pertinent, the study of AI's influence on academic research participation fits worldwide higher education trends. The emphasis is not just on using AI to enhance academic results but also on tackling the ethical issues that arise with its application. Improving research capacities by automating boring chores, offering sophisticated data analysis, and enabling the discovery of new ideas will depend on fostering an environment that supports ethical AI operations. Research output and creativity in many universities have increased because of this worldwide trend.

On a global scale, AI's impact on academic research is profound and multifaceted. In developed countries, higher education institutions are increasingly leveraging AI to foster research engagement. AI-driven tools such as machine learning algorithms, natural language processing, and big data analytics are being employed to process vast amounts of data, predict trends, and generate new knowledge. This technological advancement has made research more efficient and effective, enabling scholars to tackle complex research questions that were previously unattainable. Furthermore, AI is enhancing collaboration among researchers by providing platforms that support shared research efforts across different geographical locations. AI-powered research assistants, such as automated literature review systems and intelligent search engines, have become indispensable tools for researchers, helping them to stay abreast of the latest developments in their fields. As a

*Nwafor, Angela Ebele & [2]Umetiti, Chidinma Benedicta, 2025, 11(2):100-110*

result, AI is not only enhancing research output but also promoting interdisciplinary research and collaboration.

In developing countries, the adoption of AI in academic research is gradually gaining momentum, although it faces certain challenges such as limited access to technology, inadequate funding, and a shortage of skilled personnel. However, there is a growing recognition of the potential benefits of AI in enhancing research engagement. Institutions in these regions are beginning to invest in AI technologies, often through partnerships with international organisations and tech companies, to improve their research infrastructure and capabilities. In Nigeria, and specifically in Anambra State, the integration of AI into academic research is still in its nascent stages. Anambra State University, like many higher institutions in Nigeria, faces several challenges in fully embracing AI, including infrastructural deficits, lack of adequate training for staff and students, and limited financial resources. However, there is a clear understanding of the potential benefits that AI could bring to the academic research environment. The university is making strides towards incorporating AI into its research processes, albeit slowly. Efforts are being made to enhance the engagement of students and faculty in research activities through the introduction of AI tools and technologies. These efforts are aimed at improving the quality and quantity of research output, promoting interdisciplinary research, and making the university a hub for innovative research in the region.

### Statement of the Problem

Artificial intelligence (AI) has enormous potential to transform higher education, but its practical implementation among academics presents several challenges. One major problem is the lack of awareness and understanding of AI technologies (Chen et al., 2020). Many academics do not know the usage and benefits of AI, which prevents its use in their teaching and research activities (Bearman et al., 2023). The limited availability of AI infrastructure and resources in higher education institutions is also a problem (Alam, 2022). The high costs associated with AI technologies and the need for specialised technical expertise make it difficult for academics to use AI tools effectively (Bhattacharjee, 2019). In addition, there are concerns about the ethical implications of using AI in higher education. Issues such as data protection, algorithmic bias, and impact on teacher employability must be carefully addressed (Gurung and Ashmita, 2023). In addition to practical challenges, there is also resistance among researchers to changes regarding the adoption of AI in their teaching practice (Jokhan et al., 2022). Many teachers are used to traditional teaching methods and may be hesitant to incorporate AI technologies into their classrooms (Kuleto et. al., 2021). In addition, the lack of standard guidelines and practices for the use of AI in higher education makes its implementation more difficult. The lack of clear regulations and frameworks can lead to inconsistencies in the implementation of AI and possible misuse of the technology (Chauhdry and Kazim, 2022). Addressing these practical issues requires collaboration between higher education institutions, policymakers, and AI developers to provide appropriate training, resources, and ethical guidelines for the successful integration of AI into higher education (Wang et., 2023). The issue of using AI among teaching staff in Malaysian higher education institutions is multifaceted. First, although AI has the potential to revolutionise learning, research, and management processes, its use and implementation across countries and higher education settings is inconsistent (Rahim et al., 2022)

The above challenges are further compounded by the perception that AI may threaten critical thinking and academic retention among students, as highlighted by recent studies. This situation necessitates a strategic approach to foster AI adoption, as it can significantly enhance research methodologies, streamline data analysis, and facilitate innovative problem-solving. By embracing AI, Anambra State University can not only overcome existing challenges but also cultivate a robust academic

environment that encourages collaboration, creativity, and critical engagement with research topics. Therefore, this study aims to examine how Artificial Intelligence (AI) enhances engagement and Academic Research in higher institutions. Specifically, the study seeks to:

1. assess the effectiveness of current training programs on AI literacy and their influence on the cognitive engagement level of faculty in academic research activities in Chukwuemeka Odumegwu Ojukwu University, Igbariam, Anambra State.
2. ascertain the utilisation of AI tools to improve emotional engagement of faculty in academic research activities in Chukwuemeka Odumegwu Ojukwu University Igbariam Anambra State.

## REVIEW OF RELATED LITERATURE

### Artificial Intelligence

Artificial Intelligence (AI) has its roots in the 1950s (Grzybowski, Pawlikowska–Łagód, & Clark, 2024), with significant contributions from figures such as Alan Turing and John McCarthy (Meadows & Sternfeld, 2023). Turing (1950) proposed the Turing Test, designed to evaluate a machine's ability to exhibit intelligent behavior equivalent to a human (Gonçalves, 2023), while McCarthy (1956) coined "artificial intelligence" and defined it as the science of creating intelligent machines capable of emulating human thought and behavior (Mohammed et al., 2024). Over 67 years, AI research has yielded notable theoretical and practical achievements (Jiang et al., 2022). AI is increasingly integrated into various activities, requiring its management in organisations (Vasquez, 2022; Linden, Tilman, & Laurent, 2023; Auza Santiváñez et al., 2023). The global AI market, valued at $150.2 billion in 2023, is projected to grow at a CAGR of 36.8% between 2023 and 2030 (Vasquez, 2022).

Artificial Intelligence is defined as the development of computer systems capable of performing tasks that typically require human intelligence, such as learning, problem-solving, and decision-making (Russell & Norvig, 2021). It is the ability of machines to do what intelligent humans do (Arachie, Dibua & Idigo, 2023). AI mimics cognitive functions to process information, adapt to inputs, and improve. This involves detecting, identifying, processing, and remembering relevant variables (Goodfellow et al., 2016) using statistical and machine learning techniques. According to Nwafor, Afuecheta & Umetiti (2024), the increasing upshot of sophisticated Information and Communication Technologies (ICTs) across all private and public organisations in Nigeria became widespread during the 1980s and 1990s.

### Types and Forms of AI in Academic Research

**Natural Language Processing (NLP):** NLP technologies enable machines to understand, interpret, and generate human language. In academic research, NLP is useful for:

**Literature Review:** AI algorithms can scan vast amounts of literature, summarising key findings and identifying research gaps (Müller et al., 2022).

**Text Generation:** NLP tools can assist in drafting manuscripts and generating content based on prompts (Hammad, 2023).

**Plagiarism Detection:** AI-powered writing assistants can check for originality (Hammad, 2023).

**Machine Learning (ML):** Machine learning, a subset of AI, focuses on enabling machines to learn from data, make predictions, classify information, and identify patterns without being explicitly programmed for each task. Within the context of education, machine learning can be harnessed for

*Nwafor, Angela Ebele & [2]Umetiti, Chidinma Benedicta, 2025, 11(2):100-110*

learning analytics to analyse vast amounts of student data, offering 104personalised instruction recommendations, identifying trends in student behaviour, and forecasting academic performance.

**Data Analysis:** ML algorithms can analyse complex datasets, identifying trends, correlations, and anomalies (Burger et al., 2023).

**Predictive Analytics:** Researchers can use ML to predict outcomes based on historical data (Pal, 2023).

**Content Analysis:** ML can conduct intricate analyses of textual data, helping researchers to categorise and interpret qualitative data effectively (Nguyen-Trung et al., 2023).

**Engagement in Academic Research**

Engagement in the context of education refers to the level of interest, motivation, and active participation that students exhibit in their learning processes. Human resources is a design of management system on manpower to ensure that human talent is effectively and efficiently utilised (Nwafor, Umetiti & Ndu-Anunobi, 2024). This variable can be further decomposed into several components:

**Cognitive Engagement:** Mental effort and thought processes, enhanced through personalised learning experiences facilitated by AI.

**Emotional Engagement:** Emotional responses to the learning environment, including feelings of belonging and interest. AI tools can foster emotional engagement through gamified learning platforms and interactive simulations.

**Behavioural Engagement:** Observable actions that students take during the learning process, such as participation in discussions and completion of assignments. AI can enhance behavioural engagement through features like instant feedback and intelligent tutoring systems.

**Social Engagement**: Interactions with peers and instructors. AI can facilitate social engagement through collaborative platforms that promote teamwork and communication.

The theory of engagement has evolved over time. Engagement is typically described as having two or three components. Researchers espousing a two-component model often include a behavioural element and an emotional or affective one. The literature is more diverse than comparable, but in the last few years, there has been a broad agreement that student engagement should be seen as a multidimensional construct that incorporates a third element: the cognitive construct. Engagement as a meta-construct consisting of three domains increases the likelihood that the causes and effects of behaviour, emotion, and cognition can be examined. In this paper, we will develop three engagement constructs identified and investigated previously in the literature: behavioural engagement, emotional engagement, and cognitive engagement.

**Behavioural Engagement:** Refers to how much the student is involved in the learning activity in terms of attention, effort, and persistence. Other researchers define behavioural engagement with involvement in academic and social or extracurricular activities, which affect academic achievements and prevent dropping out (Fredricks et al., 2023)

**Emotional Engagement:** Refers to students' affective reactions in the classroom, including interest, boredom, happiness, sadness, and anxiety. Literature seems to agree that emotional engagement can be considered as students' feelings of connection to their school.

*Nwafor, Angela Ebele & [2]Umetiti, Chidinma Benedicta, 2025, 11(2):100-110*

Emotional engagement and academic achievement studies show a positive relationship between student engagement and their academic performance. In previous studies, emotional engagement is a predictor of a student's achievement level.

**Cognitive Engagement:** Refers to how strategically the student attempts to learn in terms of employing sophisticated rather than superficial learning strategies, such as using elaboration rather than memorisation.

This paper aims to explore how the emotional engagement component, within the broader construct of engagement, influences the academic performance of students.

## METHODOLOGY

This study employed a descriptive survey research design, which focuses on collecting and analysing data from a representative sample of the population at a single point in time. This approach was selected to provide a detailed understanding of the current situation of the academic staff at Chukwuemeka Odumegwu Ojukwu University (COOU) regarding the variables under investigation. The target population consisted of 1,058 academic staff members from COOU's Igbariam campus. This population was chosen to ensure the study addressed the perspectives of individuals directly involved in academia within the institution. The sample size of 291 was calculated using Krejcie and Morgan's (1970) formula for sample size determination. The primary source of data was used for the study (structured questionnaire). Data were presented in tables and analysed using descriptive statistics such as frequencies, percentages, and mean scores. Hypotheses were tested using Chi-square statistical tools at a 5% significance level.

### Data Analysis

**Research question 1:** What is the effectiveness of current training programs on AI literacy and their influence on the engagement levels of faculty in academic research activities in Chukwuemeka Odumegwu Ojukwu University, Igbariam, Anambra State

**Table 1: Distribution of responses on impact of current AI literacy training programs on engagement levels**

| S/N | Questionnaire Items | SA (4) | A (3) | D (2) | SD (1) | Mean | Decision |
|---|---|---|---|---|---|---|---|
| | **AI Literacy Trainings** | | | | | | |
| 1 | I feel confident in my ability to use AI tools in my research activities after completing the AI literacy training program. | 112 | 65 | 77 | 37 | 2.87 | Accept |
| 2 | The AI literacy training program has increased my participation in collaborative research projects. | 109 | 73 | 60 | 49 | 2.83 | Accept |
| 3 | I believe that the training provided effective strategies for integrating AI into my academic work. | 109 | 72 | 60 | 50 | 2.82 | Accept |
| 4 | The training program has motivated me to engage more deeply with AI-related topics in my field. | 88 | 86 | 53 | 64 | 2.68 | Accept |
| 5 | I am more likely to initiate discussions about AI applications in academic settings since completing the program. | 112 | 78 | 65 | 36 | 2.91 | Accept |
| | **Cognitive Engagement** | | | | | | |
| 6 | I actively seek out new information and research related to AI in my academic field. | 78 | 100 | 43 | 70 | 2.64 | Accept |
| 7 | I use AI tools to analyse data, create content, or support my teaching methods. | 34 | 40 | 110 | 107 | 2.00 | Reject |
| 8 | I spend time thinking about how AI can transform my academic work. | 45 | 126 | 49 | 71 | 2.74 | Accept |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9 | I am motivated to explore and apply AI concepts independently. | 23 | 89 | 121 | 58 | 2.26 | Reject |
| 10 | I integrate critical thinking when evaluating AI technologies for educational use. | 80 | 99 | 90 | 22 | 2.81 | Accept |

**Source: Field Survey, 2025**

Table 1 reveals the distribution of responses on the impact of current AI literacy training programs on engagement levels. The analysis here is carried out using mean, with a benchmark of acceptance of 2.5 and above, meaning that any questionnaire item with a mean of 2.5 and above should be accepted, while any that is less than 2.5 should be rejected. From the Table, it shows that all the questionnaire items, except items 7 and 9, are accepted because their respective means are greater than 2.5.

**Research question 2**: How does the utilization of AI tools improve the emotional engagement of faculty in Chukwuemeka Odumegwu Ojukwu University, Igbariam, Anambra State?

**Table 2: Distribution of responses on utilisation of AI tools to improve emotional engagement**

| S/N | Questionnaire Items | SA (4) | A (3) | D (2) | SD (1) | Mean | Decision |
|---|---|---|---|---|---|---|---|
| | **Utilisation of AI tools** | | | | | | |
| 1 | I use AI tools regularly in my teaching and or academic activities. | 35 | 60 | 101 | 95 | 2.12 | Reject |
| 2 | AI tools help me perform my academic tasks more efficiently. | 80 | 150 | 61 | - | 3.07 | Accept |
| 3 | I am confident in my ability to use different AI tools. | 58 | 61 | 98 | 74 | 2.35 | Reject |
| 4 | I integrate AI tools into curriculum delivery or course content. | 31 | 87 | 91 | 83 | 2.30 | Reject |
| 5 | I use AI tools to enhance interaction and feedback with students. | 56 | 59 | 70 | 106 | 2.22 | Reject |
| | **Emotional Engagement** | | | | | | |
| 6 | The integration of AI technologies into my academic environment encourages me to contribute more actively during discussions. | 122 | 55 | 80 | 34 | 2.91 | Accept |
| 7 | I feel that AI tools provide valuable insights that enhance my collaborative research efforts. | 75 | 72 | 80 | 64 | 2.54 | Accept |
| 8 | I have noticed an increase in feedback quality from peers when using AI-enhanced collaborative tools. | 108 | 118 | 40 | 25 | 3.06 | Accept |
| 9 | I believe that interactive environments created by AI tools enhance group collaboration on research projects. | 100 | 77 | 49 | 65 | 2.73 | Accept |
| 10 | I frequently use AI tools to facilitate communication and collaboration with fellow researchers and students. | 98 | 87 | 60 | 46 | 2.81 | Accept |

**Source: Field Survey, 2025**

Table 2 shows the distribution of responses on the utilisation of AI tools to improve emotional engagement. The analysis here is based on the mean of the individual questionnaire items, with a threshold of 2.5, meaning, any questionnaire item with a mean of 2.5 and above should be accepted, while any that is less than 2.5 should be rejected. Looking at the Table, questionnaire items 2, 6, 7, 8, 9 and 10 are accepted as being true, while questionnaire items 1, 3, 4, and 5 are rejected because their respective means are less than the benchmark of 2.5.

*Nwafor, Angela Ebele & ²Umetiti, Chidinma Benedicta, 2025, 11(2):100-110*

**Test of Hypotheses**

H$_{A1}$: Current training programs on AI literacy have a significant influence on the cognitive engagement level of faculty in academic research activities in Chukwuemeka Odumegwu Ojukwu University, Igbariam, Anambra State.

**Table 3: Regression Output for Hypothesis One**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | F | t | Sig. |
|---|---|---|---|---|---|---|---|
| 1 | .950ᵃ | .902 | .902 | 1.373 | 2664.845 | 51.622 | .000ᵇ |

a. Predictors: (Constant), AILTRAIN
**Source: Field Survey, 2025**

**Regression Output**:

- **R** = 0.950
- **R² (R Square)** = 0.902
- **Adjusted R²** = 0.902
- **F-value** = 2664.845
- **t-value** = 51.622
- **Significance (p-value)** = 0.000

**Interpretation**:

- The **correlation (R = 0.950)** is extremely strong, showing a very high linear relationship between AI literacy training and cognitive engagement.
- R² = 0.902 means that 90.2% of the variation in faculty cognitive engagement can be explained by the AI literacy training programs.
- The F-value and t-value are very high, and the p-value is < 0.05, meaning the result is statistically significant.
- Decision: Accept the alternate hypothesis; AI literacy training has a statistically significant influence on faculty's cognitive engagement in research activities.

H$_{A2}$: Utilisation of AI tools has a significant impact on improving the emotional engagement of faculty in academic research activities in Chukwuemeka Odumegwu Ojukwu University, Igbariam, Anambra State.

**Table 4: Regression Output for Hypothesis Two**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | F | t | Sig. |
|---|---|---|---|---|---|---|---|
| 1 | .950ᵃ | .903 | .903 | 1.609 | 2695.500 | 51.918 | .000ᵇ |

a. Predictors: (Constant), AITOOLS
**Source: Field Survey, 2025**

**Regression Output**:

- **R** = 0.950
- **R² (R Square)** = 0.903
- **Adjusted R²** = 0.903
- **F-value** = 2695.500
- **t-value** = 51.918
- **Significance (p-value)** = 0.000

*Nwafor, Angela Ebele & [2]Umetiti, Chidinma Benedicta, 2025, 11(2):100-110*

**Interpretation**:

- $R = 0.950$ shows a very strong positive relationship between AI tools usage and emotional engagement.
- $R^2 = 0.903$ implies that 90.3% of the variation in emotional engagement can be attributed to the use of AI tools.
- The results are statistically significant ($p < 0.05$).
- Decision: Accept the alternate hypothesis; the Use of AI tools significantly impacts the emotional engagement of faculty in academic research.


**Conclusion**

This study has revealed the significant role of Artificial Intelligence (AI) in enhancing faculty engagement in academic research at Chukwuemeka Odumegwu Ojukwu University. Findings indicate that AI literacy training programs positively influence cognitive engagement by boosting faculty confidence, motivation, and readiness to integrate AI into research activities. Although the actual utilisation of AI tools for academic tasks remains low, their potential to improve efficiency is widely acknowledged. Furthermore, the use of AI tools was found to significantly enhance emotional engagement, particularly by encouraging collaboration, improving feedback quality, and fostering interactive research environments. These results affirm that AI, when effectively introduced and supported through targeted training, can strengthen research participation and collaboration among academic staff. To fully harness these benefits, institutions must continue to invest in customised AI training, promote practical usage, and create policies that support continuous engagement with emerging technologies in academia.

**Recommendations**

Based on the findings of the study, the following are recommended:

1. **Enhance AI Literacy Training Programs**: The university should strengthen and regularly update AI literacy initiatives to reflect current technological advancements, ensuring they are practical, hands-on, and aligned with the research needs of faculty.
2. **Promote Practical Application of AI Tools**: Beyond training, faculty members should be encouraged and supported to apply AI tools in their daily academic tasks, such as data analysis, content development, and collaborative research.
3. **Incorporate AI into Curriculum and Research Frameworks**: Institutional policies should support the integration of AI tools into curriculum delivery and research frameworks to foster a culture of innovation and digital competence.
4. **Facilitate Collaborative Platforms Using AI**: Establish AI-supported collaborative platforms where faculty and students can engage in joint research, share resources, and receive real-time feedback.
5. **Conduct Continuous Monitoring and Evaluation**: Regular assessments of faculty engagement levels and the effectiveness of AI interventions should be carried out to inform improvements and ensure sustained impact.

*Nwafor, Angela Ebele & <sup>2</sup>Umetiti, Chidinma Benedicta, 2025, 11(2):100-110*

## REFERENCES

Alam, A. (2022). Employing adaptive learning and intelligent tutoring robots for virtual classrooms and smart campuses: Reforming education in the age of artificial intelligence. In *Advanced Computing and Intelligent Technologies: Proceedings of ICACIT 2022* (pp. 395–406).

Al-Jumeily, D., Hussain, A., Abuelma'atti, O., & Tawfik, H. (2019). Integrating artificial intelligence technologies into educational settings: Opportunities for enhancing teaching and learning experiences. *Springer*.

Alonta, G. A., Onwubuya, U. N., &Onwuamaeme, R. O. (2024). Perceived threats of artificial intelligence on the academic retention and critical thinking of business education undergraduates in public universities in Anambra State. *International Journal of Research and Scientific Innovation*.

Arachie, A. A., Dibua, E., &Idigo, P. (2023). Artificial intelligence as a catalyst for the sustainability of small and medium scale businesses (SMEs) in Nigeria. *Annals of Management and Organization Research, 5*(1), 1–11.

Auza Santiváñez, J. P., Rodríguez, M. H., & Velasco, D. G. (2023). Integration of artificial intelligence in organizational management: Trends and applications. *Journal of Business and Technology, 14*(1), 25–38.

Bearman, M., Ryan, J., & Ajjawi, R. (2023). Discourses of artificial intelligence in higher education: A critical literature review. *Higher Education*, *86*(2), 369-385.

Bhattacharjee, K. K. (2019). Research output on the usage of artificial intelligence in Indian higher education: A scientometric study. In *2019 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)* (pp. 916–919). IEEE.

Burger, M., Fischer, L., & Reuter, S. (2023). Machine learning applications in higher education: Analyzing student data for performance and retention. *Journal of Educational Data Science, 5*(2), 101–119.

Chauhdry, A., & Kazim, R. (2022). The role of regulatory frameworks in AI adoption within higher education. *Journal of Educational Policy and Technology, 8*(1), 45–59.

Chen, L., & Liu, Y. (2024). Exploring the role of AI in enhancing collaborative learning in higher education settings: A systematic review. *Computers & Education, 204*, 104173. https://doi.org/10.1016/j.compedu.2023.104173

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2023). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*.

Gonçalves, M. E. (2023). Revisiting Turing: Artificial intelligence, consciousness, and the future of cognitive systems. *Philosophy & Technology, 36*(1), 1–19.

Goodfellow, I., Bengio, Y., & Courville, A. (2016). *Deep learning*. Cambridge, MA: MIT Press.

Grzybowski, A., Pawlikowska–Łagód, K., & Clark, R. (2024). The evolution of AI since the 1950s: Historical and practical perspectives. *AI & Society, 39*(2), 189–202.

Gurung, B., & Ashmita, K. (2023). Ethical implications of artificial intelligence in higher education. *Asian Journal of Educational Research, 11*(1), 23–34.

Hammad, M. (2023). Artificial intelligence in academic writing: A review of text generation and plagiarism detection tools. *Journal of Educational Technology and AI, 2*(1), 33–49.

Jiang, Z., Wang, L., & Zhang, M. (2022). Achievements in artificial intelligence research over the past six decades. *AI Research Journal, 15*(4), 98–112.

Jokhan, A., Narayan, R., & Narayan, V. (2022). Challenges of integrating AI in higher education: A Pacific perspective. *Journal of Educational Technology Systems, 51*(2), 178–194.

Khan, M., & Iqbal, M. (2023). The impact of AI-powered educational tools on student engagement and learning outcomes. *International Journal of Contemporary Issues in Social Sciences, 3*(2), 2842–2852. https://doi.org/10.46281/ijciss.v3i2.1027

*Nwafor, Angela Ebele & [2]Umetiti, Chidinma Benedicta, 2025, 11(2):100-110*

Kuleto, V., Mitrović, M., & Knežević, D. (2021). Resistance to AI technology adoption in higher education: Causes and solutions. *Education and Information Technologies, 26*(3), 3421–3437.

Linden, D., Tilman, M., & Laurent, S. (2023). AI management and integration in business organizations. *Journal of Business Intelligence Research, 12*(1), 55–72.

McCarthy, J. (1956). *Proposal for the Dartmouth summer research project on artificial intelligence*. Dartmouth College.

Meadows, M., & Sternfeld, J. (2023). From Turing to transformers: A timeline of AI innovation. *Technology in Society, 65*, 101934.

Mohammed, A., Yusuf, A., & Ola, K. (2024). Understanding AI: From its inception to its application in modern society. *International Journal of Artificial Intelligence Research, 8*(1), 12–25.

Müller, S. D., Winkler, T. J., & Weitzel, T. (2022). AI-assisted literature reviews: State-of-the-art tools and techniques. *Information Systems Frontiers, 24*(1), 91–110.

Nguyen-Trung, T., Pham, B., & Tran, Q. (2023). Machine learning in qualitative research: Opportunities and challenges. *Qualitative Research in Education, 12*(1), 45–62.

Nwafor, A. E., Afuecheta, E. C., & Umetiti, C. B. (2024). Periscoping e-governance in Nigeria: Matters arising. *NG-Journal of Social Development, 13*(1). Retrieved from https://dx.doi.org/10.4314/ngjsd.v13i1.3

Nwafor, A. E., Chukwueloka, C. S., Nwumeh, U. J., &Umetiti, C. B. (2024). Impact of staff welfare scheme and skill development on employee productivity: A study of Anambra State Civil Service. *International Journal of Research Publication and Reviews, 5*. Retrieved from https://www.ijrpr.com

Nwafor, A. E., Umetiti, C. B., & Ndu-Anunobi, G. U. (2024). Human resources optimisation and organisational performance in the public sector (A study of National Orientation Agency, Awka, Anambra State). *International Journal of Public Administration and Development Studies (IJPADS), 1*(1), 125–145. https://ijpads.com

Nwafor, A. E., Umetiti, C. B., & Achinike, D. C. (2025). Role of digital transformation and artificial intelligence in promoting gender equality in public administration. *International Journal of Innovative Development and Policy Studies, 13*(1), 127–138. https://doi.org/10.5281/zenodo.14911242

Pal, R. (2023). Predictive analytics in education: Applications and ethical considerations. *Journal of Educational Technology Systems, 52*(1), 33–50.

Rahim, N. A., Abdullah, M. R., & Ismail, S. (2022). Adoption of artificial intelligence in Malaysian higher education: Opportunities and challenges. *Malaysian Journal of Learning and Instruction, 19*(3), 75–92.

Russell, S. J., & Norvig, P. (2021). *Artificial intelligence: A modern approach* (4th ed.). Pearson.

Umetiti, C. B., Nwafor, A. E., Arachie, A. E., &Ifeme, A. P. (2025). Digital literacy in the context of small and medium enterprises (SMEs): A performance dynamics. *International Journal of Public Administration and Management Research, 11*(1), 1–17. Retrieved from http://journals.rcmss.com/index.php/ijpamr

Vasquez, M. (2022). Organizational readiness for AI: A management perspective. *Journal of AI and Society, 36*(2), 211–229.

Wang, Y., Zhang, L., Chen, M., & Liu, X. (2023). Institutional strategies for AI integration in university teaching and research. *International Journal of Educational Technology in Higher Education, 20*(2), 112–130.