



EXPLORING THE AWARENESS AND UTILIZATION OF CHATGPT ARTIFICIAL INTELLIGENCE BY ACADEMIC STAFF FOR ENHANCING JOB PERFORMANCE IN COLLEGES OF EDUCATION IN DELTA STATE

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Abstract

The laxity and poor job performance of many academic staff in Colleges of Education (COEs) in Delta State which has become worrisome especially in this digitalized era, necessitated this present study. This study explored the awareness and utilization of ChatGPT Artificial Intelligence (AI) by academic staff for enhancing their job performance in COEs in Delta State. The purpose of this study was to determine the level of awareness, percentage level of utilization and current pattern of ChatGPT (AI) usage among academic staff in Delta State COEs. As such, three research questions guided this study. A descriptive survey research design was adopted in the study. Population for the study constituted 729 academic staff from two colleges of education (COE) in Delta State. The sample size for the study comprised a total of 365 academic staff selected at 50% from their entire population using proportionate stratified random sampling technique. A research instrument constructed by the researchers and titled: “Exploring Awareness and Utilization of ChatGPT Artificial Intelligence (AI) for Enhancing Academic Staff Job Performance Questionnaire (EAUCGPTAIEASJPQ)” containing 33 items was used for data collection. The questionnaire was structured on different rating scales. Both validity and reliability of the questionnaire were established. Data collated were analyzed using mean statistics rated at 2.50 and standard deviation. Findings of the study indicated among others that; the academic staff were only aware of ChatGPT (AI) in certain areas, but were not aware of ChatGPT (AI) in majority of the areas investigated in order to enhance their job performance in the COEs in Delta State. They did not also utilize ChatGPT for enhancing their job performance in the COEs. The study recommended among others that the college management in collaboration with the National Commission for Colleges of Education (NCCE) and financial assistance from the Federal and State governments, should prioritize comprehensive training programmes and on-going professional development through workshops, seminars, online courses and hands-on sessions to familiarize academic staff with ChatGPT AI practical applications in educational context and create awareness to them concerning the importance of exploring this new technology for enhancing their job performance and building their capacity for effective utilization.



Keywords: *Academic staff, Awareness, ChatGPT(AI), Exploring, Enhancing, Job, Performance, Utilization*

Introduction

The Nigerian Colleges of Education (COEs) including those in Delta State are important citadel of higher education learning popularly known for training and producing the Nigeria Certificate in Education (NCE) teachers for the education section. They are among the teacher education institutions not only known for academic preparation of pre-service student-teachers but also for the training of serving (in-service) or graduate teachers without educational background in their Professional Diploma in Education (PDE) programme. According to the National Commission for Colleges of Education (NCCE, 2021), the Colleges of Education (COEs) are institutions dedicated to training and educating individuals to become teachers and educational professionals. They provide specialized teacher education programmes and courses aimed at preparing students for careers in teaching and educational leadership (Darling-Hammond, 2017). By producing NCE and graduate teachers who participate in the training of different individuals in various professions, the COEs significantly contribute to the growth of the nation's economy and sustainable development of the Nigerian society. Given the important role(s) of the COEs in both the Nigerian educational system and nation's economy, it is important that both student-teachers and graduate teachers consistently receive quality or qualitative education that would make them become vibrant, creative and committed to the teaching profession. At the COEs, the academic staff are responsible for the provision of quality education which positively impact teachers with the intellectual and professional background adequate for their assignment in all levels of the educational system (Federal Republic of Nigeria, FRN, 2014).

Academic staff as conceived by the Higher Education Academy (HEA, 2020) refers to individuals employed by educational institutions such as the COEs to engage as part of their job performance or responsibilities in teaching, research and scholarly activities. Wilson (2018) described the academic staff of the COEs as educators and researchers who work in higher education institutions, contributing to the development and dissemination of knowledge. In the COEs, academic staff perform different responsibilities, tasks and duties in areas of teaching, administration, research development, consultancy services and public relations service, which can be termed as their job performance. Academic staff job performance according to Campbell and Wiernik (2015), can be viewed as the effectiveness with which job incumbents perform the tasks outlined in their job descriptions. Job performance can also be referred to as the level at which an individual or teacher executes his or her job responsibilities and contributes to organizational or educational goals (Sonnetag & Frese, 2002). To effectively perform their jobs, tasks and duties, it is important that academic staff do this with the support of such emerging digitalized technology as the Artificial Intelligence (AI) in order to accomplish tasks for achievement of both educational and instructional goals/objectives. In this present advanced technological age and knowledge-based economy, the use of Artificial Intelligence (AI) is beginning to make quite significant impact in all spheres of human life, including the socio-economic and political sectors likewise the education sector. Adebayo (2021) opined that the rapid advancements in AI technologies have provided educators with innovative tools to enhance their productivity and effectiveness. This capability makes it a versatile tool for various academic tasks, including creating lesson plans, grading assignments, providing research assistance, and automating administrative functions (Brown, Lee & Taylor, 2020). Artificial Intelligence (AI), according to Russell and Norvig (2021), is the simulation of human intelligence processes by computer systems, including learning, reasoning, and self-correction. It is further the ability of a machine to perform tasks that typically require human intelligence, such as visual perception, speech recognition, decision-making, and language translation (Goodfellow, Bengio & Courville, 2016). Individuals in the education sector such as school administrators, teachers, academic staff, researchers and curriculum developers, now use different Artificial Intelligence (AI) tools to perform administrative tasks, conduct academic researches, engage



in consultancy services, and organize their book development, among others. With the Artificial Intelligence (AI) tools, academic staff can efficiently and effectively enhance their job performance to a satisfaction level. Besides, enhancing refers to improving the quality, value, or extent of something. It involves the process of making something better or more effectiveness (Oxford English Dictionary, 2023; Merriam-Webster, 2023). Among these Artificial Intelligence (AI) tools useful in education to enhance academic staff job performance is the ChatGPT AI. ChatGPT AI is a language AI model developed by OpenAI, which is designed to assist users by generating human-like text based on the input it receives, used for various applications such as text generation, question answering, and conversation (OpenAI, 2023). It is an advanced AI tool designed to understand and generate natural language text, facilitating a wide range of interactive and assistive applications (Brown, Lee & Taylor, 2020).

ChatGPT AI is very useful to enhance academic staff job performance in their different task areas in conducting students' assessment through automated grading, personalized feedback and scalability, monitoring students' academic work and progress through data analysis, timely interventions, personalized paths and automated progress reports, academic support and tutoring through subject-specific assistance, exam preparation and skill development, administrative consultancy through policy formulation on discipline, inclusivity and academic standards likewise resource allocation, example staffing, budgeting and classroom materials, support for students' counselling in career guidance, personal development and mental health support, and curriculum development through designing of curricula, content creation and personalized learning pathways (Adebayo, 2021; Chen, 2019; Edwards & Smith, 2021). Others may include research development, lesson formation and planning, book development, facilitating parental engagements in students' academics, among others (Brown et al, 2020; Davis, 2020). ChatGPT AI, therefore, can be a valuable tool in conducting assessments and monitoring students' progress likewise performing other administrative and consultancy tasks, but it should be used as a supplement to human educators, not a replacement. Ensuring data privacy, maintaining the integrity of assessments, and providing the human touch are critical factors that need careful considerations. By leveraging ChatGPT, academic staff can enhance their consultancy services and operational efficiency across academic, administrative, and other support areas, leading to a more efficient, effective and supportive educational environment. ChatGPT can be integrated into various instructional practices to enhance educational likewise teaching and learning experiences. However, it is essential to use ChatGPT as a supplement to traditional teaching methods, ensuring a balanced approach that combines human insight with AI capabilities (Adebayo, 2021). For academic staff to efficiently and effectively leverage on ChatGPT AI to enhance their job performance, this depends on their level of awareness, level of utilization and current pattern of usage. Awareness is the state of being conscious or knowledgeable about something, particularly within a specific context or field (Smith, 2022). It can also be referred to as the recognition and understanding of a situation, concept, or phenomenon, often as a precursor to informed action (Johnson, 2021). On the other hand, utilization or usage according to Lee (2020), is the act of using resources or tools effectively to achieve a specific purpose or outcome. Utilization also refers to the extent to which a particular service, tool, or resource is used by individuals or organizations (Garcia, 2019). Understanding the level of awareness of ChatGPT among academic staff is crucial in assessing its potential impact.

Awareness according to Chen (2019), is the initial step towards the adoption and effective use of new technologies. For academic staff, being aware of ChatGPT AI means understanding its capabilities, potential applications, and benefits for enhancing job performance. Awareness influences attitudes towards technology, readiness to adopt it, and the ability to leverage its features effectively. In the same vein, awareness of AI tools like ChatGPT can significantly influence their adoption and integration into daily academic activities and job performance. Therefore, the awareness and knowledge of ChatGPT allows academic staff to create interactive and engaging learning experiences, provide personalized feedback, and support students more effectively. It can streamline research processes,



assist in data analysis, and facilitate literature reviews, leading to more efficient and productive research activities. Understanding the capabilities of ChatGPT can help academic staff automate routine administrative tasks, such as scheduling, communication, and report generation, freeing up time for more strategic activities (King & Sen, 2013; Luckin, Holmes, Griffiths & Forcier, 2016; Reddy, 2019). Hence, this study aimed to ascertain how familiar academic staff in Delta State COEs are with ChatGPT AI and whether they recognize its potential to enhance their job performance. Additionally, the extent to which ChatGPT is utilized by academic staff is another important metric of its impact. The extent of utilization reflects not only the awareness but also the readiness and ability to integrate these technologies into daily academic tasks.

Utilization rates as observed by Davis (2020) can provide insights into the practical benefits and challenges associated with integrating AI tools into academic workflows. The utilization of ChatGPT AI involves the practical application of this technology to enhance various aspects of academic work. Effective utilization can lead to improved teaching methods, streamlined administrative processes, efficient consultancy services and more efficient research activities. Understanding the level of utilization helps in identifying gaps and opportunities for further promoting ChatGPT AI integration in educational settings. Previous studies have shown that the adoption of AI tools in education can lead to improved efficiency and productivity (Davis, 2020). This study determined the percentage level of ChatGPT AI utilization among academic staff in Delta State COEs. Furthermore, identifying the current patterns of ChatGPT AI usage is essential for understanding how academic staff leverage this technology in their professional activities. The integration of ChatGPT AI into various facets of academic work in COEs has shown diverse patterns of usage. The current pattern of ChatGPT AI usage among academic staff in Delta State COEs can be categorized into several key areas of: teaching, research, consultancy services and administrative tasks, to enhance efficiency, improve quality, and innovate in educational practices. ChatGPT AI can be employed in various ways and patterns, from enhancing teaching materials and conducting research to streamlining administrative tasks (Edwards & Smith, 2021). Academic staff use ChatGPT AI to enhance their teaching methods by generating interactive lesson plans, creating personalized learning materials, developing course contents and providing instant feedback to students. This pattern of utilization helps in catering to diverse learning needs and improving student engagement (Luckin et al., 2016). ChatGPT AI aids in research by assisting with literature reviews, data analysis, and writing research papers. Its ability to process and generate large volumes of text makes it a valuable tool for streamlining research activities and enhancing productivity (King & Sen, 2013). Academic staff can use ChatGPT AI for data analysis tasks, including statistical analysis, data visualization, and interpretation of research results. This accelerates the research process and improves the accuracy of findings (Russell & Norvig, 2021). ChatGPT AI assists in drafting research manuscripts, grant proposals and academic publications by generating coherent and well-structured text based on input provided by researchers (Brown et al, 2020).

The pattern of utilizing ChatGPT AI for administrative tasks includes automating routine communications, scheduling, and report generation. This reduces the administrative burden on academic staff, allowing them to focus more on teaching and research (Reddy, 2019). Hence, utilization ChatGPT AI has a positive impact on the job performance of academic staff in various ways of enhancing the quality of their work. Enhanced teaching materials and more thorough research outputs contribute to higher quality work. ChatGPT's ability to assist in creating detailed and accurate content ensures that academic outputs meet high standards (Luckin et al., 2016). The use of AI tools fosters innovation in teaching and research methods. Academic staff can explore new pedagogical approaches and research methodologies, contributing to the overall advancement of educational practices (Selwyn, 2012). Automating routine tasks and providing instant access to information significantly improves efficiency, allowing academic staff to manage their time better and focus on core responsibilities (Bates, 2019). This study therefore, examined how academic staff in Delta State COEs currently use ChatGPT AI, highlighting specific applications and their impact on their job performance in teaching, research,



consultancy and administration. From the foregoing discussions, several factors can affect the level of awareness and utilization of ChatGPT AI among academic staff and they include opportunities for training and professional development, institutional support established through resources mobilization, perceived ease of use and perceived usefulness of technology, incentives and creation of conducive learning environment, collaborations among colleagues, peer influence and networks, technical support, and access to information about AI tools, among others (Bates, 2019; Guri-Rosenblit, 2018; Selwyn, 2012). Never minding the importance and advantages of utilizing ChatGPT AI to enhance academic staff job performance, yet it seems that many academic staff are neither knowledgeable nor understand the usefulness of this technological tool in education. Given the present technological and information age, many academic staff still rely heavily on the old, traditional and conventional method of teaching, research development, consultancy service and administrative practices. Although, a few empirical studies such as those of Agbatogun (2013), Alba and Trani (2018), Amuchie (2015), Bassam (2018), Comia (2017), Edumadze, Ossei-Anto, Edumadze, Tamakloe, Asamoah and Boadi (2014), Eiriemiokhale and Sulyman (2023), Fakomogbon, Olanrewaju and Soetan (2014), Khalid (2016), Madu and Musa (2023), Nuhu (2021), Olanrewaju, Kareem and Adeshina (2014), Onah, Onyebuchi, Eke and Adayi (2020), Saleem, Al-Saqri and Ahmad (2016), Saleh (2016), Thomas, Gambari, Sobowale and Shehu (2022) and Yushau and Nannim (2020). have been carried out in the areas of AI technology, but none of these previous research studies to the best knowledge of the researchers, have explored the awareness and utilization of ChatGPT Artificial Intelligence (AI) by academic staff for enhancing their job performance. Most of these past studies which have been conducted in different locations using different methodologies, focused mainly on the benefits and importance of AI technologies in education, including the aspect of teachers' utilization of AI technology, therefore, showcasing a dearth of empirical studies or researches in the area of academic staff awareness and utilization of ChatGPT AI for enhancing their job performance. These previous studies have their own findings, contextual differences and mix, literature review, shortcomings and limitations, which is quite different from the present study and hence, warranting or necessitating the present study. Conversely, the awareness and utilization AI tools has increasingly become important and an integral part of modern educational systems, transforming the way academic staff, teachers and educators perform their duties and jobs. Among these various AI tools, ChatGPT, a language model developed by OpenAI, has garnered attention for its potentials to enhance job performance in educational settings. Thus, the researchers in this study have been motivated to explore the awareness and utilization of ChatGPT AI among academic staff for enhancing their job performance in Colleges of Education (COEs) in Delta State, focusing on academic staff level of awareness, level of utilization and current pattern of usage of ChatGPT Artificial Intelligence (AI).

Statement of the Problem

The integration of Artificial Intelligence (AI) digitalized tool like ChatGPT in educational settings has shown promising potentials in enhancing job performance among academic staff. In the context of COEs in Delta State, there is a noticeable gap in understanding the awareness, practical application and utilization of ChatGPT AI among academic staff. Despite the increasing availability and advancements of AI tools such as ChatGPT, there is limited empirical data on how aware academic staff in Delta State COEs are of these technologies. Awareness is a critical precursor to adoption, and without a clear understanding of the current awareness levels, it is challenging to develop strategies to promote the effective use of AI. However, the extent to which these technologies are recognized and utilized by academic staff of the Colleges of Education (COEs) in specific regions remains under-researched. Furthermore, the degree to which ChatGPT AI is utilized by academic staff for enhancing job performance is not well-documented. Utilization rates are essential for gauging the practical impact of ChatGPT AI on teaching, research, consultancy service and administrative tasks. Without this data, it is difficult to assess the effectiveness of ChatGPT AI in improving academic productivity and



efficiency. Additionally, there is a need to explore the specific patterns of ChatGPT AI usage among academic staff. Identifying how ChatGPT AI is being used in various academic tasks can provide valuable insights into its benefits and limitations. Understanding these usage patterns can inform policy and decision-making processes aimed at supporting the integration of AI in educational institutions. The dearth of research in this area, coupled with the need to address the issues of enhancing academic staff job performance through the awareness and utilization of ChatGPT AI in the COEs, has created a gap which needs to be filled by this present study. Hence, the need to explore the awareness and utilization of ChatGPT Artificial Intelligence (AI) by academic staff for enhancing their job performance in COEs in Delta State has become the problem of this study.

Purpose of the Study

The purpose of this study was to explore the awareness and utilization of ChatGPT Artificial Intelligence (AI) by academic staff for enhancing their job performance in Colleges of Education (COEs) in Delta State. Specific objectives of the study aimed at:

1. Ascertaining the level of awareness of ChatGPT Artificial Intelligence (AI) among academic staff for enhancing their job performance in Colleges of Education (COEs) in Delta State.
2. Determining the percentage level of utilization of ChatGPT Artificial Intelligence (AI) by academic staff for enhancing their job performance in Colleges of Education (COEs) in Delta State.
3. Indicating the current pattern of ChatGPT Artificial Intelligence (AI) usage among academic staff for enhancing their job performance in teaching, research and administrative tasks in Colleges of Education (COEs) in Delta State.

Research Questions

The following research questions guided the study;

1. What is the level of awareness of ChatGPT AI among academic staff for enhancing their job performance in COEs in Delta State?
2. What is the percentage level of utilization of ChatGPT AI by academic staff for enhancing their job performance in COEs in Delta State?
3. What is the current pattern of ChatGPT AI usage among academic staff for enhancing their job performance in teaching, research and administrative tasks in COEs in Delta State?

Methods

A descriptive survey research design was adopted in the study. The design was used to enable the researchers carry out a field investigation concerning the problem by raising a research instrument which was used to retrieve information from a sample of academic staff among their total population in COEs in Delta State. Information gathered were collated and analyzed using a statistical tool to analyze data likewise reveal the findings and then, conclude the study. Population for the study constituted 729 academic staff from two colleges of education (COE) in Delta State. The choice of choosing only academic staff as population for the study was to enable the researchers get accurate information about the problem concerning the reality and true situation of things as they existed in COEs in Delta State. The sample size for the study comprised a total of 365 academic staff selected at 50% from the entire population of the two COEs using proportionate stratified random sampling technique. This is in line with Nworgu (2015) who stated that for any study with large population, 5% to 80% is sizeable to conduct the study. A research instrument constructed by the researchers and titled: "Exploring Awareness and Utilization of ChatGPT AI for Enhancing Academic Staff Job Performance Questionnaire (EAUCGPTAIEASJPQ)" containing 33 items was used for data collection. The questionnaire was organized and structured on different rating scales of 4-point rating scale of Highly Aware (HA) - 4 points, Aware (A) - 3 points, Less Aware (LA) - 2 points and Not Aware (NA) -1 point,



for answering only research question one. While 4-point rating scale of Highly Utilized (HU) - 4 points, Utilized (U) - 3 points, Less Utilized (LU) - 2 points and Not Utilized (NU) -1 point, was organized for answering research question three on the current pattern of usage of ChatGPT AI by academic staff. Then, 2-point rating scale of “yes and no” answers was analyzed using percentages and designed for answering research question two on the percentage level of academic staff utilization of ChatGPT AI. Specifically, for determining the percentage level of utilization, questionnaire items such as: extensively used, frequently used, moderately used, rarely used and never used were provided. However, extensively used means that ChatGPT AI was comprehensively used at a very high frequency and at all times by the academic staff, frequently used showed that ChatGPT AI was utilized at length but not extensively used by the academic staff, moderately used showcases that ChatGPT AI was fairly used, somewhat or used to some certain degree by the academic staff, rarely used means that ChatGPT AI was not often or scarcely used by academic staff, and never used means not at all, not ever or certainly not used by academic staff. Construction of the questionnaire was guided by the purpose of the study, research questions and several literatures consulted.

This research instrument was validated by two experts from the Department of Educational Management and Foundations, and one Measurement and Evaluation expert, Delta State University, Abraka. These experts made useful corrections on the questionnaire in terms of the sentence construction, suitability and clarity, which were incorporated before the final print out and distribution of the research instrument to the respondents. Reliability was established through a pilot-test sampling 23 academic staff from one of the COEs in Delta State, which was not part of the studied area. Data gathered from the pilot-test conducted were measured using Cronbach Alpha method which yielded coefficients reliability values of 0.87, 0.77 and 0.83 for the three clusters which was added up to give an overall coefficient of internal consistency of 0.82, showcasing that the questionnaire was reliable and trustworthy. Method of data collection was through a face to face and direct contact with the respondents engaging the services of three research assistants. An on-the-spot method was also applied in the distribution of the questionnaire to the respondents. The research assistants were academic staff from the COEs sampled in Delta State, who were also informed about the purpose of the research and directed on how to collect the necessary information from their colleagues concerning the study. It took both the researchers and research assistants a period of two weeks to distribute and gather all copies of the 365 questionnaire. The rate of return was at a 100%. Data collated were analyzed using simple percentages, mean statistics rated at 2.50 and standard deviation. The decision rule for taking decisions on the items on the questionnaire which was analyzed using mean and standard deviation statistics was that any mean score which rated at 2.50 and above was an indication of aware (A) or utilized (U). Any mean score that rated below 2.50 was an indication of not aware (NA) or not utilized (NU). Also, any percentage score above or below 50% was used to form judgement or take decision on the percentage level of academic staff utilization of ChatGPT AI for their job performance in the COEs.

Results

Research Question One: What is the level of awareness of ChatGPT AI among academic staff for enhancing their job performance in COEs in Delta State?



Table 1: Mean Scores and SD Ratings of Academic Staff on their Level of Awareness of ChatGPT AI for Enhancing their Job Performance in COEs in Delta State
N = 365 Academic Staff

| S/N | Please ascertain your level of awareness of ChatGPT AI in enhancing your overall job performance at the institution for: | HA | A | LA | NA | X | SD | Decision |
|-----------------------------|--|-----|-----|-----|-----|-------------|-------------|------------------|
| 1. | fostering innovations in teaching likewise other instructional practices especially in the areas of lesson formation and planning, developing course contents and providing instant feedback likewise improving teaching methodologies | 108 | 120 | 76 | 61 | 2.75 | 1.05 | Aware |
| 2. | aiding research by assisting with book development, literature reviews, data analysis, and writing research papers likewise research manuscripts | 123 | 117 | 57 | 68 | 2.81 | 1.10 | Aware |
| 3. | drafting grant proposals and academic publications by generating coherent and well-structured text based on input provided by researchers | 76 | 59 | 99 | 131 | 2.22 | 1.14 | Not Aware |
| 4. | improving consultancy services across academic areas, administrative areas, including support areas in students counselling, parental engagement | 55 | 71 | 109 | 130 | 2.14 | 1.06 | Not Aware |
| 5. | designing likewise implementing effective professional development programmes in areas of resources and modules development | 40 | 65 | 142 | 118 | 2.07 | 0.97 | Not Aware |
| 6. | taking decision making concerning instructional matters | 52 | 67 | 121 | 125 | 2.13 | 1.04 | Not Aware |
| 7. | conducting students' assessment through automated grading, personalized feedback, including scalability which is suitable for large classes where manual grading would be time-consuming | 64 | 56 | 133 | 112 | 2.20 | 1.06 | Not Aware |
| 8. | monitoring students' academics likewise academic progress through data analysis, timely interventions, personalized paths likewise automated progress reports | 42 | 39 | 145 | 139 | 1.96 | 0.97 | Not Aware |
| 9. | enriching academic support likewise tutoring through subject-specific assistance, exam preparation and skill development | 45 | 58 | 134 | 128 | 2.05 | 1.00 | Not Aware |
| 10. | automating routine tasks likewise providing instant access to information in order to manage time better and focus on core responsibilities | 50 | 63 | 144 | 108 | 2.15 | 1.00 | Not Aware |
| Overall Mean Score = | | | | | | 2.25 | 1.08 | Not Aware |

Analysis of result in Table 1 revealed that all the items from 3 to 10 were rated below 2.50 of the acceptable mean score by the academic staff in order to show their disagreement with all these statements. Except for only items 1 and 2 which was rated above 2.50 of the acceptable mean score by the academic staff in order to show their agreement with these statements. The overall mean score and standard deviation (SD) of 2.25 and 1.08 showcased closeness in the mean responses of the academic staff. Therefore, this result indicated that the academic staff were only aware of ChatGPT Artificial Intelligence (AI) in certain areas, but were not aware of ChatGPT (AI) in majority of the areas for enhancing their job performance in the COEs in Delta State.

Research Question Two: What is the percentage level of utilization of ChatGPT AI by academic staff for enhancing their job performance in COEs in Delta State?



Table 2: Mean Scores and SD Ratings of Academic Staff on their Percentage Level of Utilization of ChatGPT AI for Enhancing their Job Performance in COEs in Delta State

N = 365 Academic Staff

| S/N | Please determine your level of utilization of ChatGPT AI in enhancing your overall job performance at the institution in: | Frequency (N) | Percentage (%) |
|-----------------------------|---|---------------|----------------|
| 11. | Extensively used at a very high frequency at all times | 10 | 3% |
| 12. | Frequently used but not extensively or widely used at all times | 19 | 5% |
| 13. | Moderately used at a certain degree | 27 | 7% |
| 14. | Rarely used at some occasions | 86 | 24% |
| 15. | Never used at all | 223 | 61% |
| Overall Mean Score = | | 365 | 100% |

Analysis of result in Table 2 revealed the percentage level of academic staff utilization of ChatGPT AI for enhancing their job performance in the COEs. This result indicated that only 3% of the academic staff in the COEs extensively used ChatGPT AI at a very high frequency and at all times for enhancing their job performance in Delta State. Again, only 5% of the academic staff in the COEs frequently used ChatGPT AI, but not extensively or widely used at all times; while 7% of the academic staff in the COEs moderately used ChatGPT AI at a certain degree for enhancing their job performance in Delta State. Furthermore, only 24% of the academic staff in the COEs rarely used at some occasions for enhancing their job performance in Delta State; while 61% of academic staff in the COEs never used ChatGPT AI at all for enhancing their job performance in Delta State.

Research Question Three: What is the current pattern of ChatGPT AI usage among academic for enhancing their job performance in teaching, research and administrative tasks staff in COEs in Delta State?

Table 3: Mean Scores and SD Ratings of Academic Staff on their Current Pattern of ChatGPT AI Usage for Enhancing their Job Performance in Teaching, Research and Administrative Task in COEs in Delta State

N = 365 Academic Staff

| S/N | Please indicate your current pattern of ChatGPT AI usage for enhancing your job performance in teaching, research and administrative tasks at the institution for: | HU | U | LU | NU | X | SD | Decision |
|-----|--|----|----|-----|-----|------|------|---------------------|
| 16. | generating comprehensive, interactive lesson plans, course content, including creating their objectives, classroom activities and personalized learning materials | 58 | 81 | 99 | 127 | 2.19 | 1.08 | Not Utilized |
| 17. | suggesting multimedia resources like videos, infographics, and interactive simulations to improve teaching | 47 | 45 | 132 | 141 | 1.99 | 1.01 | Not Utilized |
| 18. | providing reading materials, videos, likewise interactive content to review before class | 52 | 69 | 128 | 116 | 2.16 | 1.03 | Not Utilized |
| 19. | creating engaging educational content such as stories, examples, including analogies to illustrate complex concepts | 41 | 76 | 113 | 135 | 2.06 | 1.01 | Not Utilized |
| 20. | providing access to the latest educational best practices including innovative teaching strategies and methods to support teaching in the classroom | 37 | 61 | 126 | 141 | 1.98 | 0.98 | Not Utilized |
| 21. | conducting students' assessment including other evaluative academic activities and exam preparations | 66 | 53 | 131 | 115 | 2.19 | 1.07 | Not Utilized |



| | | | | | | | | |
|-----------------------------|---|----|----|-----|-----|-------------|-------------|---------------------|
| 22. | monitoring students' academic work likewise progress through data analysis, timely interventions, personalized paths, automated progress reports | 73 | 48 | 107 | 137 | 2.16 | 1.13 | Not Utilized |
| 23. | providing access to the latest research works | 57 | 61 | 119 | 128 | 2.13 | 1.06 | Not Utilized |
| 24. | taking decision making in instructional matters especially in exploring new pedagogical approaches likewise curriculum development through designing of curricula, content creation and personalized learning pathways | 48 | 70 | 138 | 109 | 2.16 | 1.00 | Not Utilized |
| 25. | organizing students' counselling in career guidance, personal development likewise mental health support | 35 | 62 | 141 | 127 | 2.01 | 0.95 | Not Utilized |
| 26. | conducting research in areas of selecting appropriate research topic, writing research papers and manuscripts, providing outline for research methodologies including access to current literature for literature review of the research topic, | 44 | 54 | 125 | 142 | 2.00 | 1.01 | Not Utilized |
| 27. | aiding research in the aspects of designing research instrument, choosing statistical analysis to analyze data in research work, data visualization, likewise interpretation of research results | 26 | 87 | 132 | 120 | 2.05 | 0.92 | Not Utilized |
| 28. | drafting research manuscripts, grant proposals including academic publications | 46 | 58 | 129 | 132 | 2.05 | 1.01 | Not Utilized |
| 29. | sharing insights on book writing including development | 63 | 40 | 148 | 114 | 2.14 | 1.05 | Not Utilized |
| 30. | accessing latest professional development resources including modules for ongoing professional development of academic staff | 70 | 82 | 103 | 110 | 2.31 | 1.09 | Not Utilized |
| 31. | assisting in organizing and conducting virtual workshops and seminars on various educational topics | 61 | 73 | 130 | 101 | 2.26 | 1.04 | Not Utilized |
| 32. | automating administrative routine tasks and providing instant access to information which significantly improves work efficiency | 36 | 42 | 142 | 145 | 1.92 | 0.95 | Not Utilized |
| 33. | facilitating consultancy services across administrative and other support areas for parental engagement in students' academics | 56 | 60 | 122 | 127 | 2.12 | 1.05 | Not Utilized |
| Overall Mean Score = | | | | | | 2.10 | 1.03 | Not Utilized |

Analysis of result in Table 3 revealed that all the items from 16 to 33 were rated below 2.50 of the acceptable mean score by the academic staff in order to show their disagreement with all these statements. None of the items was rated above 2.50 of the acceptable mean score by the academic staff in order to show their agreement with any of the statements. The overall mean score and standard deviation (SD) of 2.10 and 1.03 showcased closeness in the mean responses of the academic staff. Therefore, this result indicated that the academic staff based on their current pattern of usage, did not utilize ChatGPT Artificial Intelligence (AI) for enhancing their job performance in teaching, research and administrative tasks staff in COEs in Delta State.

Discussion of Findings

Findings of this study generally indicated that the academic staff were neither aware nor utilized ChatGPT Artificial Intelligence (AI) for enhancing their job performance in COEs in Delta State. The academic staff were only aware of ChatGPT Artificial Intelligence (AI) in certain areas of fostering innovations in teaching likewise other instructional practices, and in aiding research. This finding



conforms and is equally related to the findings of Khalid (2016) study, who conducted a study on teachers' awareness of e-learning tools and found out that teachers were aware of the existence of e-learning tools like Learning Management System. This finding is also in agreement with Edumadze, Ossei-Anto, Edumadze, Tamakloe, Asamoah and Boadi (2014) study who carried out a study on lecturers' awareness on the use of Learning Management System for instructional delivery and found out that genders do not influence the level of awareness of Learning Management System. However, majority of the academic staff were not aware of ChatGPT (AI) for enhancing their job performance in COEs in Delta State. This finding corresponds with the findings of Madu and Musa (2023) study which confirmed that there was moderate level of awareness of lecturers on AI among the lecturers. The findings further indicated that only a small percentage level of the academic staff utilized ChatGPT (AI) for enhancing their job performance in COEs in Delta State; while a large percentage level of academic staff never utilized ChatGPT (AI) at all for enhancing their job performance in COEs. Based on the current pattern of usage, the academic staff did not utilize ChatGPT(AI) for enhancing their job performance in teaching, research and administrative tasks staff in COEs in Delta State.

It was however, discovered in the study that the academic staff were only aware of ChatGPT Artificial Intelligence (AI) in certain areas of fostering innovations in teaching likewise other instructional practices especially in the areas of lesson formation and planning, developing course contents and providing instant feedback likewise improving teaching methodologies. They were aware of using ChatGPT Artificial Intelligence (AI) in aiding research by assisting with book development, literature reviews, data analysis, and writing research papers likewise research manuscripts. Majority of the academic staff were not aware of using ChatGPT (AI) for enhancing their job performance in the COEs in Delta State for: drafting grant proposals and academic publications by generating coherent and well-structured text based on input provided by researchers; improving consultancy services across academic areas, administrative areas, including support areas in students counselling and parental engagement; designing likewise implementing effective professional development programmes in areas of resources and modules development; taking decision making concerning instructional matters; conducting students' assessment through automated grading, personalized feedback and scalability, which is suitable for large classes where manual grading would be time-consuming; monitoring students' academics likewise academic progress through data analysis, timely interventions, personalized paths likewise automated progress reports; enriching academic support likewise tutoring through subject-specific assistance, exam preparation and skill development; and for automating routine tasks likewise providing instant access to information in order to manage time better and focus on core responsibilities. This finding neither align nor corroborates with the findings of Nuhu (2021) study which revealed that lecturers in college of education in Niger State were aware of the existence of Learning Management System (LMS). This could be as a result of the lecturer's attendance of seminars, workshop and conferences on e-learning tools. The findings of Madu and Musa (2023) study revealed that there was moderate level of awareness of lecturers on AI, and also there was positive relationship between lecturers' level of awareness of AI and their digital competence, among others. The lecturers were more aware of literature search engines such consensus, elicit, connected papers, Research Rabbit, CORE, BASE, Google scholar, Researchgate, RefSeek, and semantic scholar, more than the level of awareness and exposure to advancement technologylike the AI. Furthermore, the present study finding deviates from the findings of Eiriemiokhale and Sulyman (2023) study which investigated librarians' awareness of AI suggested a potential broader trend within the education sector. Their findings, indicated that the librarian awareness of AI, might point towards a general familiarity with the concept within educational settings.

It was found out in this study that only a few percentage of the academic utilized ChatGPT AI for enhancing their job performance in Delta State; while majority of them never used ChatGPT AI at all. This finding included that only 3% of the academic staff in the COEs extensively used ChatGPT AI at a very high frequency and at all times for enhancing their job performance in Delta State. Again, only



5% of the academic staff in the COEs frequently used ChatGPT AI, but not extensively or widely used at all times; while 7% of the academic staff in the COEs moderately used ChatGPT AI at a certain degree for enhancing their job performance in Delta State. Furthermore, only 24% of the academic staff in the COEs rarely used at some occasions for enhancing their job performance in Delta State; while 61% of academic staff in the COEs never used ChatGPT AI at all for enhancing their job performance in Delta State. This finding does not agree with the finding of Nuhu (2021) study which revealed that lecturers were ready to adopt LMS for their teaching. This could be as a result of the fact that lecturers and teachers perceived technology as relevant to their needs or their students' needs. The finding disagrees with Saleem, Al-Saqri and Ahmad (2016) study, which examined lecturers' readiness for the use LMS (Moodle) and found out that, most lecturers are not ready for the use of web-based learning platform like (LMS). The finding of Nuhu (2021) study confirmed that lecturers had positive attitude towards the adoption of Learning Management System for instructional delivery. This finding could be as a result of the fact that education lecturers showed positive attitudes towards the elements such as the use of the internet, e-mail or MS Word, together with a willingness to use these tools for their work and at home, for preparing teaching processes. This present study finding is equally not in agreement and deviates with the findings of Bassam (2018) study who carried out a research on the attitudes of university faculty members and students towards the use of the Learning Management System (LMS) in teaching and learning and discovered that attitudes of university faculty members and students towards using the Learning Management System in teaching and learning were positive. The present study finding also disagrees with the finding of Saleh (2016) study, who carried out a research on the use and attitude towards Learning Management Systems (LMSs) and found out that there was positive attitude toward the use of Learning Management System.

The finding of this study based on academic staff current pattern of usage ChatGPT (AI) discovered that they did not utilize it for enhancing their job performance in teaching, research and administrative tasks in the COEs in Delta State for: generating comprehensive, interactive lesson plans, course content, including creating their objectives, classroom activities and personalized learning materials; suggesting multimedia resources like videos, infographics, and interactive simulations to improve teaching; providing reading materials, videos, likewise interactive content to review before class; creating engaging educational content such as stories, examples, including analogies to illustrate complex concepts; for providing access to the latest educational best practices including innovative teaching strategies and methods to support teaching in the classroom; conducting students' assessment including other evaluative academic activities and exam preparations; monitoring students' academic work likewise progress through data analysis, timely interventions, personalized paths, automated progress reports; providing access to the latest research works in order to conduct research; taking decision making in instructional matters especially in exploring new pedagogical approaches likewise curriculum development through designing of curricula, content creation and personalized learning pathways; organizing students' counselling in career guidance, personal development likewise mental health support; and for conducting research in areas of selecting appropriate research topic, writing research papers and manuscripts, providing outline for research methodologies including access to current literature for literature review of the research topic.

The academic staff did not utilize ChatGPT (AI) for enhancing their job performance in the COEs in Delta State for: aiding research in the aspects of designing research instrument, choosing statistical analysis to analyze data in research work, data visualization, likewise interpretation of research results; drafting research manuscripts, grant proposals including academic publications; sharing insights on book writing including development; accessing latest professional development resources including modules for ongoing professional development of academic staff; assisting in organizing and conducting virtual workshops and seminars on various educational topics; automating administrative routine tasks and providing instant access to information which significantly improves work efficiency; and for facilitating consultancy services across administrative and other support areas



for parental engagement in students' academics. This finding is in line and flows with the finding of Olanrewaju, Kareem and Adeshina (2014) study which discovered that lecturers of COEs did not use technological educational resources. This finding conforms and is equally related to Edumadze et al. (2014) study which found out that lecturers' use of technology for instructional delivery was low. This finding agrees and corroborates with the findings of Thomas, Gambari, Sobowale and Shehu (2022) study which revealed that lecturers rarely used AI for education in a Nigerian University. Finding emanating from Thomas et al (2022) study further revealed that the male and female lecturers rarely used Artificial Intelligence for education in a Nigerian university. The present study finding agrees with the findings of Onasanya et al. (2011) study which discovered and reported that the science teachers' level of ICT utilization was very low. Similarly, Agbatogun (2013) study confirmed that the most faculty members were yet to utilize emerging digital technologies for teaching and learning. Also, Amuchie (2015) study found out a very low usage of ICT resources in teaching and learning in secondary schools. Furthermore, the present study finding collaborates with the finding of Yushau and Nannim (2020) study which revealed that lecturers' extent of utilization of ICT facilities was low. Onah, Onyebuchi, Eke and Adayi (2020) study confirmed that the utilization of ICT for teaching and learning Cultural Creative Arts in secondary schools was poor. In addition, the present study finding aligns with the findings of Fakomogbon, Olanrewaju and Soetan (2014) study which revealed that lecturers' overall usage of Instructional Media (IM) was very low. The finding contradicts that of Comia (2017) study which reported the utilization of educational innovations and was moderate. Similarly, the present study finding deviates from Alba and Trani (2018) study which revealed that teachers often used ICT in their teaching, assessment and administrative tasks. Therefore, findings of this study underscores a disparity between awareness, actual percentage level of utilization and current pattern of usage of ChatGPT AI among academic staff in the COEs in Delta State. Despite being aware of the potential benefits of ChatGPT AI in certain areas of teaching and research, there is still limited percentage level of integration (that is, utilization) and current pattern of usage of ChatGPT AI into daily practices across various academic staff job functions.

Conclusion

This study on exploring the awareness and utilization of ChatGPT Artificial Intelligence (AI) among academic staff for enhancing their job performance in COEs in Delta State revealed significant insights into the current landscape of technology adoption and integration in educational settings. While academic staff demonstrated some awareness of ChatGPT AI in certain areas, particularly in teaching and research contexts; the findings indicated a notable gap in their percentage level of utilization coupled with their current pattern of ChatGPT AI usage across teaching, research, consultancy services, and administrative tasks within COEs. The study thus, concludes and submits that the academic staff were neither aware nor utilized ChatGPT Artificial Intelligence (AI) for enhancing their job performance in COEs in Delta State. The lack of utilization of ChatGPT AI in COEs negatively impacted on academic staff job performance in various ways of missing opportunities to enhancing new inventions and innovations in teaching and research processes, likewise, promoting administrative efficiency. In essence, while awareness of ChatGPT AI among academic staff in COEs is evident, the percentage of utilization and pattern of usage for enhancing job performance, remains underdeveloped. Addressing the identified problem and implementing targeted strategies to promote effective utilization would be critical in harnessing the full potential of ChatGPT AI to improve teaching quality, advance research capabilities, and streamline administrative consultancy processes within COEs in Delta State and beyond. By bridging the gap between awareness and utilization, COEs can foster a culture of innovation and excellence in education through the transformative power of AI technologies like ChatGPT.

Recommendations

From the findings, these recommendations were proffered:



1. The college management in collaboration with the National Commission for Colleges of Education (NCCE) and financial assistance from the Federal and State governments, should prioritize comprehensive training programmes and on-going professional development through workshops, seminars, online courses and hands-on sessions to familiarize academic staff with ChatGPT AI practical applications in educational context and create awareness to them concerning the importance of exploring this new technology for enhancing their job performance and building their capacity for effective utilization.
2. Institutions encouraging collaborative initiatives among academic staff, technology experts and educational researchers, can facilitate and positively impact high percentage level of knowledge sharing and best practices in ChatGPT AI application and utilization for enhancing academic staff job performance in the COEs.
3. The college management can create an enabling and supportive environment for the adoption of ChatGPT AI by developing clear policies, likewise, providing incentives and technical support systems which encourages academic staff to explore and adopt AI tools like ChatGPT confidently for enhancing their job performance in teaching, research and administrative tasks. This should be match up with the institutions regular evaluation of the impact of ChatGPT AI integration on job performance and gather feedback from staff to refine implementation strategies and address emerging challenges.

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