Impact of Artificial Intelligence (AI) on Lecturers' Proficiency Levels in English Teaching and Library Practice in Nigerian Universities

Dr. Diala Edwin Lionel[1], Rev. Sr. Fiat Mary Uzoegbu[2], Dr. Uchenna C. Nwaigwe[3], Ohanaka Bethrand Uchenna[4]

[1]Department of Languages and Humanities, Alvan Ikoku University of Education, Owerri

[2]Senior Librarian, Alvan Ikoku University of Education, Owerri

[3]Chief Acting Librarian, Alvan Ikoku University of Education, Owerri

[4]Department of Information & Communication Technology, Alvan Ikoku University of Education, Owerri

ABSTRACT

This paper presents a literature on the impact of Artificial Intelligence (AI) in English language teaching and library practice and its impact on library operations. This study aims to provide researchers with a comprehensive understanding of AI in the English language teaching and library context. This paper aims at analyzing an artificial intelligence platform that can be used in examining lecturers' proficiency levels in English teaching and library practice in Nigerian universities. It draws attention to how AI facilitates personalized learning experiences by adapting to individual teachers' teaching style, pace, and proficiency levels. The paper examines the proficiency levels of lecturers in Nigerian universities regarding the utilization of AI features in three innovative presentation software tools: MS PowerPoint, Canva, and Gamma. Through the application of AI playing as a pivotal tool in enhancing research, teaching and learning experiences, the study explores the significance of PowerPoint literacy in modern English teaching and learning settings. The method of research design is descriptive. The population of the study consists of the entire academic staff in Nigerian universities. The sample size used is made up of 600 lecturers. Data are analyzed using descriptive statistics of mean, standard deviation on a 4-point Likert Scale. The findings of this study serve as a base for developing training programs and interventions to enhance PowerPoint literacy skills in the teaching of English Language and library practice in Nigerian universities. The findings also illustrate that Artificial Intelligence technology is useful for developing teaching of English Language and library practice. The major limitation of this study is that it does not examine the extent of AI role in teachers' teaching and students' English learning. The information presented in this paper serves as a valuable resource for researchers interested in exploring the use of AI in English language teaching and library practice.

Keywords: Artificial Intelligence, AI in Libraries, AI in English Language Teaching, Language Skills Enhancement, Powerpoint Proficiency.

INTRODUCTION

This study explores the transformative role of Artificial Intelligence (AI) in the area of English language teaching. It brings to light how AI facilitates personalized learning experiences through adapting to individual teachers' learning styles, pace, and proficiency levels. The study discusses the benefit of AI in providing immediate and personalized feedback, enhancing teachers' language skills through interactive practices like conversation simulators, and assisting in grammar and vocabulary enhancement. It further addresses the accessibility and resource availability suggested by AI, including 24/7 access to teaching devices and numerous ducational materials. It examines how AI assists in overcoming traditional educational limitations through breaa-

king of geographical barriers and providing alternative areas as a result of teacher shortages.

A couple of years back, Artificial Intelligence (AI) contributed in providing power to make computers relevant as learning media. In addition, exchange of information employs the recent Information and Communication Technology (ICT), knowledge networks, sensors, and automatic identification and material pursuit technology otherwise known as machine learning (ML). ML refers to an Artificial Intelligence application that enables one to mechanically gain knowledge of and become skilled, experience, despite the system is not clearly programmed. Machine learning centers on developing PC programmes that will access and gain independent knowledge. Machines assist greatly in assembling library resources and user services. samples of machine learning tools among Artificial Intelligence include robotics, chatbots, text data processing (TDM), massive data, and pattern recognition.

Artificial intelligence is a powerful tool in teaching and learning. Teaching and Learning is advancing more through the use of computer science. Artificial Intelligence (AI) came as result of transformative technology with intense implications across different areas. It has demonstrated that great potential in English language teaching in revolutionizing teaching and research methodologies, presenting personalized learning experiences, enhancing academic performance, and reorganization of research processes. The proficiency levels of lecturers in using AI in Nigeria, in particular PowerPoint is of interest. Sallam, Malik, et al., (2023) state that the rise of Artificial Intelligence technology has stimulated the interest of English language teachers in determining methods of incorporating and integrating such advancements in teaching and learning.

The integration of AI tools has grown increasingly in English language teaching settings. Among the available software applications like MS PowerPoint, Canva, and Gamma have appeared to be powerful devices for creating, captivating and informative presentations. These devices according to Aiyedun (2020) make lecturers to integrate multimedia elements, like images, videos, and animations, for effective explanation of complex concepts and connect students in the learning process.

The PowerPoint software, included in the 'Microsoft Office' package is a powerful presentation device. The proficiency of lecturers in Nigerian universities utilizing these software devices is vital in the classroom situation. However, limited research exists on PowerPoint literacy skills among lecturers in Nigerian tertiary institutions. The understanding of the proficiency levels of lecturers in utilizing these devices is necessary in designing appropriate interventions and training programmes to enhance presentation skills and improve the quality of English language teaching.

PowerPoint literacy is the competence and proficiency of individuals in utilizing MS PowerPoint, Canva, and Gamma to produce visually appealing and informative presentations. Skillful use of these devices assists lecturers teaching in an engaging manner, assisting comprehension and knowledge retention among students. However, the inadequate PowerPoint literacy skills among lecturers result in ineffective presentations leads to reduced student engagement, limited comprehension and finally hampering learning process. Almutawa and Suwaidan (2020) noted that while other Microsoft Suite such as Excel offer benefits ranging from presenting the average score of students to track students' performance and attendance in class, PowerPoint offers amazing presentation of course content to students.

The inability to use these devices creates disadvantaged learning.

Learning refers to the process of improving knowledge. Through participation in an exceedingly clear activity, each learner gradually moves from a beginner to the main target areas like within the practice of participation, learners express their experiences through a range of direct and indirect methods with the intention of developing reasonable skills and recognize their values.

As a result of the need for English as a global language, its usefulness becomes more important, especially in countries where English is a second language. it is therefore very necessary to improve the classroom and school surroundings in order to develop the learner in the recreation and model of language environment. Advances in computer assisted language learning and understanding programmes have changed and developed into innovative

ideas for human language processing.

Statement of the Problem

Learning has become process of knowledge improvement. Being part of an exceedingly learning exercise, all learners gradually shift from a novice to the major target. During practice participation, learners express their experiences through a variety of ways with the intention of developing sensible skills and acknowledge values. Because of the need of English as a global language, its usefulness becomes increasingly important. It is therefore necessary to develop the schoolroom environment and increase the learners within the simulation language environment. Improvements in computer science in language translation and understanding have developed into innovative ideas for human language processing. Thus, the improvement of English teaching and learning are effectively advanced through Artificial Intelligence machine learning, intelligent search, and natural language processing. Related to the explanation above, this research is to distinguish and understand the role of Artificial Intelligence (AI) and to investigate AI technologies in English Language Teaching and library practices.

Research Objectives

The general objective of this study is to assess impact of Artificial Intelligence (AI) on lecturers' proficiency levels in English teaching and library practices in Nigerian Universities,.
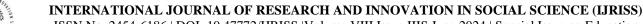
The specific purposes of this study are:

1. To examine the proficiency level of lecturers in utilizing Artificial Intelligence platforms in the teaching of English language and library practices.
2. To determine the relevance of Artificial Intelligence platforms in modern English language teaching environments and identifies gaps in lecturers' skills, providing recommendations for enhancing proficiency.
3. To determine the relationships between artificial intelligence and English language teaching and library practices

Research Questions

1. What is the proficiency level of lecturers in utilizing Artificial Intelligence platforms in the teaching of English language and library practices?
2. What is the relevance of Artificial Intelligence platforms in modern English language teaching environments in teaching and library practices?
3. What are the relationships between artificial intelligence and English language teaching and library practices?

Significance of the Study

1. The significance of AI applications in English language teaching and library practices is determined by their ability to fit into the requirements and abilities of the learners, to work according to their educational preferences, and to assess the progress rate of learners.
2. AI creates educational progress in English language teaching and library practices from a traditional method to an automated system through smart interactive machines.
3. AI teaching systems can replace teachers as they have programmes that give guidance and allow learners to use self-study skills
4. AI applications can make teaching personalized and introduce different educational methods through which language and library practices are merged with fields of related knowledge.
5. AI applications offer students the opportunity of learning according to their different abilities and educational levels.
6. They also permit learners to practice language skills with provision of feedback for guidance.

7. AI can be utilized in overcoming numerous difficulties in teaching/learning English as well as library practices.

LITERATURE REVIEW

The Applications of AI in English Language Assessment Teaching and Research

Artificial intelligence (AI) being in a class of the fifth generation of computer development, refers to the simulation of human intelligence in machines that are programmed to think like humans and mimic their actions. Nevertheless, resent advancement in the field of (AI) has led to the birth of newer artificial intelligence tools such as the AI in MS PowerPoint, Canva, and Gamma.

According to Afonughe, Onah, Uzoma, and Andor (2021), Artificial intelligence (AI) has the potential to improve the proficiency levels of lecturers in Nigeria in terms of PowerPoint development and utilization. AI-driven educational platforms can analyze individual learning patterns and preferences, enabling effective teaching and research paths for lecturers. Such adaptive AI systems provide tailored content, feedback, and assessments, optimizing the learning process for each lecturer. Ching, Himmelstein, Beaulieu-Jones, Kalinin, Do, Way and Lizee (2018) note that AI algorithms enable researchers to process vast amounts of data efficiently, accelerating data analysis and interpretation. This has proven beneficial in fields like genomics, drug discovery, and social sciences.

Artificial intelligence (AI) offers personalized learning experiences. It enhances English language assessment Teaching and Research with automated grading and feedback. It facilitates great language practice through chatbots and language processing tools. For instance, teachers carrying out AI help automate repetitive day to day teaching activities like tests and quizzes' grading and identifying minor errors within written essays. This assists teachers by providing time to concentrate on in-depth feedback, creating comprehensive lesson plans and spending adequate time with students.

Artificial intelligence (AI) is greatly transforming the education sector especially English language assessment Teaching and Research. AI-powered devices and applications are useful for personalize learning, provides enough time for feedback, and automate tasks, giving teachers freedom to focus on additional creative and strategic activity. AI system guides students through suggestions of areas of collaboration, predicts students performance, recommends appropriate teaching styles and devices for teachers as well as assisting policymakers with evidence-based decision-making.

The Role of AI in Language Assessment:

AI makes to useful communication of various information and enhances English language teaching. There are several options of language teaching and learning applications as a result of Artificial Intelligence (AI). These are suitable used for both English teachers and students. The English language teaching may apply the following AI technology:
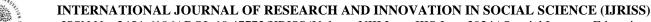
Google Translate

Google Translate are useful in the teaching and learning English for the purposes of translation. This is an online translator. They are used to translate words, phrases, sentences, and paragraphs Google Translate can verify the spelling of words that appear incorrectly. It is a useful tool for learning pronouncement of words.

Orai

Orai is a perfect choice for giving speeches in public. Lessons, practice, progress, and recording are some of the features offered by Orai help to improve speaking abilities.

Chatbot

Chatbots enhances individuals' conversational abilities through the promotion of fluency and confidence in using English on daily contexts. It helps in getting instant feedback, instantly addresses   mistakes   in   grammar,

vocabulary, and pronunciation. Error discovery and modification are more efficiently done thanks and quickly corrected. It contributes to vocabulary growth. Chatbots are useful tools for measuring learners' progress. They can provide significant insights into areas that may need more attention due to their assessment and progress tracking features.

Advantages of Artificial Intelligence in English Language Teaching and Research

Artificial Intelligence is the ability of machines to perform tasks that normally require human intelligence. AI plays a vital role in transforming the learning experience. It assists learners to work at their own pace, engages them with activities and appeals to their interests. Several language learning mobile applications use the potential advantages of AI in education in helping users learn a new language by investing a small amount of time daily with the help of Artificial Intelligence. The scholar gives examples of such apps like Duolingo, Mondly and Babble.

The integration of AI in English teaching thus offers a more nuanced, responsive, and effective approach to learning, significantly enhancing the educational experience for learners:

Instant Feedback: The AI language learning app grades tests and evaluates essays automatically immediately after they are submitted, identifying the errors and suggesting corrections. This helps students and teachers and saves time.

Increases engagement in the learning process: Learners have ability to set their own goals, study from any place at any time, and follow a customized syllabus to learn the language.

Language bots: Language bots are innovations in language learning. The learner simply initiates a conversation with the language but and gets feedback, tips, and corrections in response. Duolingo and Carnegie Learning's MATHia are the best examples of language but implementation.

Adaptive learning: AI adapts course content and delivers in real time as a result of learner's progress and understanding. This makes certain and guarantees the user's maximum engagement in the learning process.

Natural Language Processing: AI enhances language learning by using Natural Language Processing (NLP) to analyze learners' pronunciation, grammar, and vocabulary. This provides learners with immediate feedback and support in real time.

Assessment and analytics: AI provides automated assessments and analytics to help teachers follow and trail learners' progress and identify areas where the course content or delivery requires improvement.

Enhancing Language Skill Language Practice: Artificial Intelligence plays a pivotal role in enhancing language skills by providing interactive and immersive language practice opportunities. Conversation simulators powered by AI are a prime example of this. Through conversation with AI helps to improve fluency, comprehension, and conversational skills.

Pronunciation correction tools: These are aspects where AI notably assists in language learning. These tools use speech recognition technology to analyze pronunciation, offering immediate feedback and guidance on how to improve. They identify specific phonetic errors and provide drills for practice.

Grammar and Vocabulary Enhancement: AI's impact extends to the teaching of complex grammar rules and vocabulary expansion. AI-powered language learning platforms offer a contextual learning experience, presenting grammar and vocabulary in natural, real-life scenarios.

Identification of Patterns of Language Usage: AI algorithms identify patterns in language usage, recognizes common grammatical errors in vocabulary. AI method of teaching grammar and vocabulary is very effective and ensures that learning process is both well-organized and suitable.

Incorporate Gamification and Interactive Elements: AI-based language learning tools integrate gamification and interactive elements. This significantly enhances motivation and retention, especially during learning complex aspects of language such as grammar and vocabulary.

Impact of AI on Library Practices Skills Acquired

In the effort to assure the dynamic information requirements of its customers in the ever-changing technological society, libraries explores, incorporates and metamorphoses through different technological revolutions of clay tablets, stones, papyrus, parchments, paper, microforms, computers, Internet, virtual libraries, library 2.0, and cloud computing. Interestingly, artificial intelligence as current technology has evolved with enormous prospects and promising applications in library practices. Briefly put, the bottom line for applying artificial intelligent systems in library practices is the fact that they are less prone to errors unlike human beings; they can work for 24 hours/7 days without getting tired thereby freeing the librarians to do other jobs.

For many years the Library Practices have evolved in providing services in widest ranges like readership, advisory and referral services, loaning of library resources, provision of access to Internet among others. Traditionally Library Practices is considered as gatekeeper of information and knowledge. It is a desk-bound, back-end activity where most expected tasks is performed like cataloguing, indexing and abstracting, reader services; and severally have led to teaching in Library Practices in educational institutions. Library is an important institution where people make research.

The concept of Library Practice according to Olufunke (2017) is an institution that support the university community by delivering services to meet the teaching, research and learning needs of staff and students. It plays a key role in the educational system of institutions by providing a variety of services to a wide range of users in the academic environment. It provides access to information resources in diverse formats to users.

It provides timely and relevant information in support of teaching and research needs. The university library is a repository of information resources. These resources are traditionally information resources like books, journals, maps, encyclopedia, dictionaries, newspapers and periodicals. Some of the services provided are reference services, technical services, and selective dissemination of information, lending services, bibliographic services, reprographic services, inter-library loan services, indexing and abstracting services. Library Practices involve creation, selection, organization, management, preservation, dissemination, and utilization of collections of information in all formats.

Application of Artificial Intelligence in Libraries

Artificial Intelligence matters to library practices because it is employed to organize and make available large collections of information. Commenting on this, Sridevi and Shanmugam (2017) state that artificial intelligence is the modern technology used in managing the digital library. The ultimate goal of artificial intelligence is to develop computer systems that think, behave and compete human intelligence, which clearly has major implications on librarianship.

Artificial intelligence cannot just be an intelligent system or software programme, it is a biologically motivated technology used to reproduce human ways of perceiving and processing information. Intelligent library automation systems rely on artificial intelligence technologies to make available knowledge-based services to library customers and staff.

Some fields of artificial intelligence that are used in library management system identified by Sridevi and Shanmugam 2017 include:

1. Natural Language Processing (NLP),
2. Expert Systems (ES),
3. Pattern Recognition,
4. Robotics etc.

Natural Language Processing (NLP) is the analysis and generation of natural language text by computers. In libraries, they are used to design intelligent expert reference system or information retrieval system, where users can interact directly with the system using natural languages.

Expert System are designed to manage subject indexing or reference services. They are computer programmes that simulate human decision making.

It should be added that artificial intelligence systems could also be developed to handle resource development or collection development of the library. Udensi and Akor (2016) note that collection development deals with the resource selection, acquisition and development in the library, or simply the process of meeting the information needs of library users in a timely and economical manner mainly through acquisitions.

Information retrieval is another aspect of librarianship that has felt the touch of artificial intelligence. Croft, Metzler and Strohman (2015) state that Library information retrieval deals with the recall of information or resources from a file or database, it is concerned with the structure, analysis, organization, storage, searching, and retrieval of information stored in a library's collections, information centre or the Internet. Unagha (2010) adds that Artificial intelligence retrieval systems facilitate information searching and retrieval from the library's collection, be it paper-based or electronic.

The modern information retrieval tools now used in libraries to provide quick and innovative access to information include: electronic databases, Online Public Access Catalogue (OPAC), web search engines, and robotic systems customised for book retrieval and delivery. Most web search engines today such as Google, incorporates speech recognition to their system.

I. Artificial intelligence has gained tremendous application in library practices such as:
II. Automatic cataloguing and classification using Optical Character Recognition (OCR)
III. Automatic translation of foreign language materials using Natural Language Processing (NLP)
IV. Automatic indexing using Expert Systems
V. Retrieval of audiovisuals materials Optical Character Recognition and Speech Recognition. Music and pictures in the library's collections can be called up as fast as printed records – a new dimension to knowledge storage and management.
VI. Interactive bibliographic instruction using various media
VII. Intelligent gateways to online sources,
VIII. User-structured information environment
IX. Portable computer reader services for the handicapped
X. Intelligent Document Delivery Services (DDS)
XI. The benefits of artificial intelligence in libraries can be summarized as follows:
XII. In the words of Ex Libris (2019), artificial intelligence in libraries makes research more discoverable, usable, and accessible which enhance research productivity among faculty members.
XIII. Bridge in Time: Round the clock accessibility to information resources and services just in time.
XIV. Bridge in Space: The space occupied by piles of books, journals, bound newspapers and other information materials has been reduced by the introduction of digitization, electronic copies and use of robotic cranes that stores and retrieve books from a compact off-site storage location.
XV. materials, technical services, circulation services, references services, serial management etc.
XVI. Maximization of effectiveness in form of improves services delivery and elimination of human errors in library operations.
XVII. Minimization of Effort: The effort expended by librarians in technical services, circulation services, references services, serial management etc, can been minimized by the use of artificial intelligence systems in libraries.
XVIII. Enhanced and immersive user experience in library services delivery

Skills Acquired through Library Practice

Ugwu and Ezeani (2012) identify the following skills acquired through Library practice.

Information Technology Skills:

These include networking, library automation and digitization, web based services, reprography, micrographs, facsimile, video text, tele-text, database creation and management systems, content development, desktop publishing, internet, presentation, hardware/software skills and relational databases including the ability to create data structures which facilitate the indexing and retrieval of information and thesaurus development.

Information Literacy Skills:

These have to do with the ability to locate information efficiently and effectively, evaluate information critically and competently and using information accurately and creatively. Also included are the economics and marketing of information products and services, information resource management, information processing and organizing, e-mail, multimedia perspectives and video conferencing.

Managerial Skills:

These are the business management skills such as marketing, financing, accounting, control, planning and goal setting, decision making, human relations and managing growth. These are essential in launching and growing a new venture.

Personal Entrepreneurial Skills:

These include inner control/discipline, risk taking, innovativeness, change orientation and ability to manage change, persistence, and visionary leadership.

Technical Skills:

Written and oral communication, interpersonal, monitoring environment, the ability to organize, and network building skills are necessary for successful venture and they should be given attention by students to enable them succeeding in venturing.

Accessibility and Resource Availability

Availability

The major advantage of AI in teaching English is its availability round-the-clock. This helps to break down the traditional boundaries of time and place in education. AI-powered language learning tools are accessible anytime and anywhere. AI tools are often available and enables learners to practice and improve their English skills at their convenience.

Resource-rich Environment

AI in English teaching in addition provides learners with a resource-rich environment. It offers a vast collection of learning materials tailored to various learning styles and levels. It usually recommends resources based on the learner's progress, preferences, and goals. The use of AI enables the integration of diverse learning methodologies, taking care to different learning preferences, such as visual, auditory, kinesthetic, or reading/writing-preferred learners.

The availability and accessibility of AI tools greatly enhance the quality of English language education, making it more inclusive and adaptable to individual learner needs.

PowerPoint Slide Presentation (PPT) for Teaching and Research

PowerPoint is a software programme that enhances the creation of materials that presents slides using projector, (Reference. Com. 2016). Virtually in all instructional deliveries in the classroom and elsewhere, PowerPoint is a very effective device for research, teaching and learning. When it is used in the classroom for teaching, it is

called a presentation. Time is vital in teaching and learning. PowerPoint slide master and layout leads to effective management of time. Introduction of themes and background into PowerPoint presentation fascinates and arouses learners' interest. Teacher application of this gingers learners' ability to retain, assimilate and retrieve the information communicated to them during the learning process (Reference.Com, 2016). With PowerPoint, audio-visual and multimedia capabilities, offer teachers and researchers a platform to present information in a structured and visually engaging manner Ojelade, Aregbesola, Ekele, and Aiyedun (2020).

Benefits of PowerPoint Slides in Teaching:

1. A study conducted by Mayer and Moreno (2013) note that well-designed PowerPoint slides, when combined with appropriate instructional strategies, improves student understanding and retention of information.
2. PowerPoint slides offer numerous benefits in the area of teaching.
3. Provides a structured framework for organizing content, enabling educators to present information in a logical sequence.
4. Breaks down complex concepts into brief and visually appealing slides.
5. Facilitates information retention and comprehension among students.
6. The inclusion of multimedia elements, such as images, videos, and animations, enhances engagement and student motivation.
7. Allows for customization and interactivity, enabling instructors to incorporate interactive quizzes, hyperlinks, and embedded resources, fostering an active learning environment.
8. Offers a versatile and adaptable device for delivering instructional content effectively.
9. Use of AI in PowerPoint slides, such as diagrams, charts, and graphs, enhances conceptual understanding and facilitate knowledge transfer.

Challenges and Limitations:

Despite PowerPoint slides offering many benefits, they also face challenges and limitations.

1. challenge is the risk of information overload.
2. Presenting too much text or complex visuals on a single slide overcomes learners and hampers information processing.
3. challenge of potential passive learning.
4. limits student interaction and critical thinking.
5. excessive use of animations or transitions distracts learners from the main content.

Best Practices for Designing PowerPoint Slides:

To optimize the effectiveness of PowerPoint slides, several best practices should be considered.

1. Slides should be clear, concise, and focused on key points. Limiting text and using bullet points or visual cues help avoid overwhelming learners.
2. Effective slide design involves using appropriate fonts, contrasting colors, and consistent formatting to enhance readability.
3. Visuals, such as images and diagrams, should be relevant, high-quality, and properly labeled to support understanding.
4. Well-structured slide layouts and logical sequencing aid in delivering content coherently.
5. Presenters should also use PowerPoint slides as a supplement to their verbal explanations, encouraging active engagement and fostering discussion rather than relying solely on the slides.

MS PowerPoint for Teaching and Research

Microsoft PowerPoint, commonly known as MS PowerPoint, is widely used presentation software that has become staple in teaching and research environments.

Applications of MS PowerPoint in Teaching:

MS PowerPoint offers many applications for teachers in the area of teaching.

1. It provides a platform for creating visually appealing and structured presentations, enabling teachers to pass information in a clear and organized manner.
2. With its varied range of features, including slide layouts, animations, and multimedia integration, it permits teachers to incorporate elements that improve student interest and comprehension.
3. It serves as a tool for interactive learning by incorporating clicker questions, quizzes, and other interactive features that promote student engagement.
4. It enables teachers to create reusable resources such as lecture notes or study materials, fostering flexibility and efficiency in instructional delivery.

Effectiveness of MS PowerPoint in Enhancing Learning:

MS PowerPoint impacts positively on student learning outcomes. Mayer and Moreno (2013) note that the visual nature of PowerPoint presentations assists in information retention and comprehension, particularly when combined with appropriate instructional strategies. Well-designed slides with concise text, relevant visuals, and appropriate animations support the organization and delivery of content in a manner that agrees with cognitive load principles. MS PowerPoint's multimedia capabilities permit the integration of videos, images, and audio, providing various modes of representation that cares for diverse learning styles. T

MS PowerPoint for Research:

MS PowerPoint is not limited to teaching purposes only; it is valuable in the area of research. Researchers utilize MS PowerPoint to create visually persuasive presentations for conferences, seminars, or research meetings for effective communication of research findings to different audiences. PowerPoint's features, like slide transitions, animations, and embedded multimedia, are employed to improve the visual impact of the presentation. Álvarez and Olatunde-Aiyedun (2023) posit that MS PowerPoint serves as a platform for constructing professional-looking posters that summarize project-based research or findings. The software permits researchers to structure information more effectively, integrate relevant visuals, and make visually appealing layouts that draws attention of viewers.

Best Practices for Using MS PowerPoint in Teaching and Research:

To maximize the effectiveness of MS PowerPoint, certain best practices should be considered.

1. Presenters should ensure that slides are visually appealing, with appropriate fonts, colors, and layouts that enhance readability.
2. It is essential to maintain consistency in design elements throughout the presentation to promote visual coherence.
3. Presenters should also aim for simplicity and conciseness in slide content, using bullet points or key phrases to convey information effectively.
4. Effective use of visuals, such as charts, diagrams, and images, can aid in understanding complex concepts and reinforce key points.
5. Presenters should engage on delivery techniques, using the PowerPoint slides as a complement to their verbal explanations rather than relying solely on the slides themselves.
6. MS PowerPoint is versatile devices that greatly improve teaching and research endeavours.
7. It facilitates the creation of visually engaging presentations, promotes student engagement, and supports instructional delivery.
8. MS PowerPoint assists in effective communication research findings through presentations and posters.
9. Through the multimedia capabilities of MS PowerPoint teachers and researchers optimize the MS PowerPoint tools to enhance learning outcomes and effectively disseminate research findings.

Canva for Teaching and Research

Canva is a versatile graphic design tool that has gained popularity among teachers and researchers as a resource for creating visually appealing and engaging materials. In research, Canva's design capabilities create visually compelling posters or presentations for conferences and symposiums, effective communication research findings to a wider audience. Canva's infographic templates are utilized to distill complex research data into easily understandable visual representations, facilitating knowledge dissemination.

Furthermore, Canva is employed to create professional-looking research reports, incorporating graphs, charts, and images to enhance readability and visual appeal.

In teaching, Canva improves instructional materials, engages students, and promotes visual literacy. In research, Canva creates visually appealing presentations, posters, and reports, increasing the impact and accessibility of research findings.

Benefits of Canva in Teaching:

Canva offers several benefits for educators in the realm of teaching.

1. It provides a user-friendly platform with a wide range of customizable templates, allowing instructors to easily create visually captivating presentations, infographics, posters, and other instructional materials.
2. Canva's drag-and-drop interface makes it accessible to users with limited design skills, empowering teachers to create professional-looking resources without the need for extensive graphic design knowledge.
3. Canva offers a diverse library of high-quality images, icons, and fonts, enabling teachers to enhance their materials with visually appealing elements.
4. Through incorporating Canva into teaching practices, teachers elevate the visual appeal of their instructional materials, leading to increased student engagement and comprehension.

Applications of Canva in Teaching:

Canva can be applied to various teaching contexts and disciplines.

1. In language arts and literature classes, educators can use Canva to create visually rich storyboards or character analysis posters.
2. In science and mathematics, Canva can be utilized to design infographics that simplify complex concepts or to create engaging visual aids for experiments.
3. Social studies teachers can employ Canva to design interactive timelines or graphic organizers that help students grasp historical events or concepts.
4. Furthermore, Canva's collaborative features enable students to actively participate in the creation of visual content, fostering teamwork and creativity.
5. Canva's versatility makes it a valuable tool for educators across different subject areas, enhancing instructional design and promoting visual literacy among students.

Gamma for Teaching and Research

Gamma according to Bilal (2023) is a comprehensive e-learning AI-powered app that converts any journal article into a presentation — in minutes for teaching and research. Gamma's data management capabilities enable researchers to organize and store research data securely.

Furthermore, the platform's collaboration tools permit remote collaboration among researchers, enabling real-time discussions, document sharing, and project management. Gamma's e-learning capabilities can also be leveraged in research settings, such as conducting online training modules or workshops for research participants.

Applications of Gamma in Teaching

Bilal (2023) stated that Gamma provides various applications for educators in the area of teaching. It offers a user-friendly interface that permits teachers to create and deliver online courses, lectures, and assessments. Through Gamma, teachers develop interactive multimedia content, including videos, presentations, quizzes, and simulations, engage students and promote active learning. It supports collaboration and communication among students and teachers through discussion forums, virtual classrooms, and real-time chat features. Furthermore, Gamma enables teachers to identify students' progress, monitor performances, and provide personalized feedback, facilitate adaptive learning experience.

The Benefits of Gamma in Teaching and Research:

To maximize the benefits of Gamma, certain best practice is considered.

1. In teaching, teachers should design interactive and engaging learning experiences by leveraging Gamma's multimedia capabilities and collaborative tools.
2. Clear communication and guidance on navigating the platform should be provided to students to ensure a smooth learning experience.
3. In research, researchers should familiarize themselves with Gamma's research-specific features and explore how they can be integrated into their research workflows.
4. Ethical considerations, such as data privacy and informed consent, should be addressed when utilizing Gamma for research purposes.
5. Furthermore, ongoing training and support should be provided to both teachers and researchers to maximize their proficiency in utilizing Gamma effectively.
6. Ogunode, Somadina, Yahaya and Olatunde-Aiyedun (2021) state that Gamma is a versatile e-learning ICT platform that offers a range of tools and features to enhance teaching and research activities.
7. In teaching, it enables the creation of interactive and engaging learning experiences, promoting student engagement and facilitating personalized instruction.
8. In research, Gamma supports data management, collaboration, and participant engagement.
9. While further research is needed to explore its direct impact on learning outcomes and research processes, the potential of Gamma to enhance teaching and research experiences is evident.

RESEARCH METHODOLOGY

Research Design:

This study adopted a descriptive research design to assess the impact of Artificial Intelligence (AI) on lecturers' proficiency levels in English teaching and Library practices in Nigerian Universities. The descriptive design is appropriate for providing a detailed description of the current status and characteristics of a particular phenomenon or group.

Population and Sample:

The population of the study comprised 600 academic staff of English teaching and Library practices in Nigerian

Universities. The sample size consisted of 60 lecturers who are expected to actively participate in Artificial Intelligence (AI) proficiency levels in English teaching and Library practices. This sample size was selected using a purposive sampling technique, bearing in mind the availability and willingness of lecturers to participate in the study.

Data Collection:

Data were collected through a structured questionnaire research items related to the proficiency levels of lecturers in utilizing Artificial Intelligence (AI). The items were developed based on the research objectives and

reviewed by specialists in the field to ensure face and content validity. The questionnaire used a 4-point Likert scale, ranging from 1 (Low Proficiency), 2 (Moderate Proficiency), 3 (High Proficiency) to 4 (Very High Proficiency). The questionnaire was distributed among selected lecturers in person.

Data Analysis:

The collected data were analyzed using mean and standard deviation. This descriptive statistics provided a comprehensive overview of the proficiency levels and helped identify the existing gaps and challenges faced by lecturers in using the AI software tools.

ANALYSIS

Research Question One: What is the proficiency level of lecturers in utilizing Artificial Intelligence platforms in the teaching of English language and library practices?

Table 1: Mean and Standard Deviation the extent of proficiency level of lecturers in utilizing Artificial Intelligence platforms in the teaching of English language and library practices

S/N	Item Statement	n	$\sum X$	$\bar{X}$	S	Remarks
1	Using MS PowerPoint slides for delivering instruction in utilizing Artificial Intelligence platforms in the teaching of English language and library practices in class	60	197	3.28	1.329	ME
2	Using Canva PowerPoint slides for delivering instruction in utilizing Artificial Intelligence platforms in the teaching of English language and library practices in class	60	191	3.18	1.501	ME
3	Using Gamma PowerPoint slides for delivering instruction in utilizing Artificial Intelligence platforms in the teaching of English language and library practices in class	60	176	2.93	1.471	ME
4	Videos can be found on the internet to support course content for PowerPoint in utilizing Artificial Intelligence platforms in the teaching of English language and library practices	60	217	3.62	1.379	HE
5	Creating online blogs with graphic designs in utilizing Artificial Intelligence platforms in the teaching of English language and library practices	60	192	3.2	1.493	ME
6	Informing students about computer ethics in utilizing Artificial Intelligence platforms in the teaching of English language and library practices	60	191	3.18	1.524	ME
7	Effectively using search engines (Google Chrome, Firefox etc.) in utilizing Artificial Intelligence platforms in the teaching of English language and library practices	60	216	3.6	1.392	HE
8	Selecting appropriate software in utilizing Artificial Intelligence platforms in the teaching of English language and library practices	60	196	3.27	1.528	ME
	Cluster/Pooled Mean			3.284		ME

Sample Size (n), Summation (∑X), Mean (X̄), Standard Deviation (S), and Remarks

From Table 1 revealed extent of proficiency level of lecturers in utilizing Artificial Intelligence platforms in the teaching of English language and library practices before the treatment with a total number of 60 lecturers.

The Table revealed that items 1-3, 5-6 and 8, indicating six items of the research questionnaire had mean scores

indicating medium extent (ME). This implies that, on the average, lecturers were merely proficient in utilising PowerPoint slide presentation (PPT) tools.

On the other hand, the respondents have higher extent (HE) with two items 4 and 7 with mean scores higher than 2.50, indicating higher proficiency level of the lecturers in utilising PowerPoint slide presentation (PPT) tools for teaching and research.

Research Question Two: What is the relevance of Artificial Intelligence platforms in modern English language teaching environments in teaching and library practices?

Table 2: Summaries of descriptive statistics (Mean & Standard Deviation) to describe the relevance of Artificial Intelligence platforms in modern English language teaching environments in teaching and library practices

S/N	Item Statement	n	$\sum X$	$\overline{X}$	S	Remarks
9	Gender has an effect on AI training and learning styles of students in modern English language teaching environments in teaching and library practices	60	185	3.08	1.533	ME
10	Male and female students display different preferences towards AI training and learning processes in modern English language teaching environments in teaching and library practices	60	217	3.62	1.391	HE
11	The most common trait of AI training and learning exhibited by female students is note-taking in modern English language teaching environments in teaching and library practices	60	193	3.22	1.451	ME
12	Females in English language class display a vigorous and keen interest in note-taking during lectures in modern English language teaching environments in teaching and library practices	60	182	3.03	1.426	ME
13	There is an effect of gender on the AI training and learning styles of individuals in modern English language teaching environments in teaching and library practices	60	212	3.53	1.396	HE
14	AI training and learning styles varied from person to person and were not based on gender differences in modern English language teaching environments in teaching and library practices	60	194	3.23	1.5	ME
15	Teachers agreed that male students exhibited a kinaesthetic mode at AI training and learning in modern English language teaching environments in teaching and library practices	60	178	2.97	1.473	ME
16	Male students indulge in physical activities instead of listening to the lectures being delivered through PowerPoint presentations in modern English language teaching environments in teaching and library practices	60	211	3.52	1.359	HE
17	Female students display a keen interest in reading and writing new information and material presented to them in modern English language teaching environments in teaching and library practices	60	188	3.13	1.567	ME
	Cluster/Pooled Mean			3.259		ME

Sample Size (n), Summation (∑X), Mean (X̄), Standard Deviation (S), and Remarks

Table 2 shows the relevance of Artificial Intelligence platforms in modern English language teaching environments in teaching and library practices results of the pre-test and post-test mean intention scores of treatment group based on gender. When asked about the association of gender with learning styles of individuals, majority of the teachers reported that these findings indicate that since male and female students tend to learn

differently, so they exhibited different behavioral traits while learning under the given conditions of the classroom. It can also be implied that since the teaching style of the teachers was not tailored according to the learning style based on the gender of the students, so the students were not completely engaged in the classroom and displayed signs of boredom and laziness. The Table revealed that items 9, 11, 12, 14, 15 and 17 indicate six items of the research questionnaire had mean scores indicating medium extent (ME). This implies that, on the average, lecturers based on gender were merely proficient level of lecturers' gender difference in utilizing PowerPoint slides in teaching and research. On the other hand, the respondents have higher extent (HE) with three items 10, 13 and 16 with mean scores higher than 2.50, indicating higher proficiency level of lecturers' gender difference in utilizing PowerPoint slides in teaching and research tools for teaching and research.

Research Question Three: What are the relationships between artificial intelligence and English language teaching and library practices?

Table 3: Summaries of descriptive statistics (Mean & Standard Deviation) to describe the extent of relationships between artificial intelligence and English language teaching and library practices.

S/N	Item Statement	n	$\sum X$	$\bar{X}$	S	Remarks
23	The overall effectiveness of AI training is important in English language teaching and library practices	60	135	2.25	1.48	LE
24	The ability to use AI training gives confidence during the teaching of English language and library practices	60	160	2.67	1.58	ME
25	AI training enhances understanding of the software's features and functionalities in English language teaching and library practices	60	138	2.3	1.522	LE
26	AI training provides clear instructions and explanations in English language teaching and library practices	60	151	2.52	1.6	LE
27	AI provides a more effective teaching and learning process through digitalized learning material and multimodal human-computer interactions in English language teaching and library practices	60	154	2.57	1.5	LE
28	AI training offers practical examples and demonstrations in English language teaching and library practices	60	156	2.6	1.405	LE
29	AI resolves various learning difficulties in English language teaching and library practices	60	146	2.43	1.43	LE
30	AI systems enable teachers to focus on emotional support in English language teaching and library practices	60	134	2.23	1.489	LE
31	AI systems enable teachers to focus on providing guidance in English language teaching and library practices	60	188	3.13	1.535	ME
32	AI systems enable teachers to focus on fostering creativity in English language teaching and library practices	60	193	3.22	1.474	ME
33	AI systems enable teachers to focus on critical thinking among students in English language teaching and library practices	60	184	3.07	1.593	ME
34	Teaching students about AI is essential for developing digital literacy	60	187	3.12	1.668	ME
35	Teaching students about AI prepares students for future academic success in English language teaching and library practices	60	185	3.08	1.576	ME
	Cluster/Pooled Mean			2.706		ME

Sample Size (n), Summation ($\sum$X), Mean ($\bar{X}$), Standard Deviation (S), and Remarks

Table 3 shows the overall effectiveness of the extent of relationships between artificial intelligence and English

language teaching and library, rated positively with 4 point indicating the highest desired score, with 7 questionnaire items of respondents finding the perceptions of teachers' on AI training effective. The training met the expectations of participants below 2.05 indicating lower extent, while six of questionnaire items felt confident in their perceptions of teachers' on AI training ability. This indicates that the respondents have moderate extent perceptions of teachers' on AI training and believe that the training enhanced their understanding of the software's features and functionalities. Clear instructions and explanations were provided of respondents. The training was considered engaging and interactive to participants. Furthermore, they felt that their specific needs and requirements were addressed. All respondents were likely to recommend the training to their colleagues. Lastly, they believed that the training improved their overall presentation skills.

The Table revealed that items 23 and 25 – 30 indicate seven items of the research questionnaire had mean scores indicating lower extent (LE). This implies that, on the average, lecturers based on overall effectiveness of the extent of perceptions of teachers' on AI training. On the other hand, the respondents have medium extent (ME) with six items 24 and 31- 35 with mean scores higher than 2.50, indicating higher proficiency level of the lecturers perceptions of teachers' on AI training. tools for teaching and research.

DISCUSSION

Table 1 revealed the relevance of Artificial Intelligence platforms in modern English language teaching environments in teaching and library practices. Artificial intelligence technology refers to technology that searches and discovers how the robot can complete the intelligent work that only human beings can complete primarily as one of the global most progressed information systems. Technology grows in a way that it becomes extra advanced and creates easier teaching and learning of English. Fryer and Carpenter (2006) note that one technology that is often discussed greatly is Artificial Intelligence Technology. Technology is opening up many new possibilities for language learning. Luo and Cheng (2020) state that English language teaching is facilitated by Artificial Intelligence (AI) technologies. The challenges of short teaching hours, limited space, limited resources, and a monotonous measurement method can be solved efficiently by Artificial Intelligence (AI) technology, etc. Salvaris, Dean, and Tok (2018) note that the relevance of Artificial Intelligence platforms can create smart machines that think and act like humans, with the capacity to reproduce intelligence and create decisions through a process that is similar to human reasoning.

There is a significant mean gained of lecturers after treatment as they tend to utilise PowerPoint Artificial Intelligent tools more effectively than before treatment and revealed that there is a significant difference in the pretest and posttest mean proficiency level of lecturers in utilizing PowerPoint slides for teaching and research. The findings of this study is in agreement with the findings of Siering (2015); and Ogunode, Okwelogu, and Olatunde-Aiyedun (2021) that acquiring the cognitive and skilful intelligence of utilising appropriate ICT skills in teaching and research enhances effective lesson delivery. Wonu and Bupo (2022) further noted that the use of PowerPoint presentations for teaching and research significantly improves effective learning outcomes of lecturers and students.

Table 2 revealed the relevance of Artificial Intelligence platforms in modern English language teaching environments in teaching and library practices. Teaching and learning English has been made easier with the development of digital platforms. Artificial intelligence (AI) technology currently offers the opportunity to enhance English language skills. Language literacy and digital literacy is a efficient recipe for improved global competence. AI bases its process on the text processing of a language. The use of AI technologies strengthens language teaching and learning.

AI plays a role in transmission of various information and making the English learning environment more effective. The existence of different kinds of learning technology makes it easier for learners to comprehend what has been explained by the teacher. The result of the findings show that there are so many choices of language learning applications based on the technology of Artificial Intelligence (AI) which can be used by both English educators and students/learners.

This revealed that there is no significant difference in AI-assisted devices is a sub-section of computer-assisted

language learning for foreign language learning (CALL). AI provides a wide variety of developments in language education with the exponential growth in natural language processing and technologies to cope with big data. English language teaching is regarded as an integral educational goal in terms of enhancing the prospects of students to interact internationally. Artificial intelligence (AI) offers a vast range of enhancements in language education with the exponential growth of natural language processing and technologies able in working with big data.

The findings of this study equally collaborated with the findings of Yusuf (2023) that agrees that gender as no effect in learning digital technological tools as both male and female had equal chances of learning to utilise the PowerPoint once interested, passionate and discipline towards the learning process. Yusuf (2023) further stated that PowerPoint Presentation (PPT) improves male and female academic achievement when taught using PowerPoint presentation.

Table 3 revealed the extent of relationships between artificial intelligence and English language teaching and library practices. Artificial intelligence (AI) as a challenging and creative field in teaching English helps to create global classrooms open for all, including those who speak different languages or have vision or auditory impairments. Gawate (2019) states that as an additional support system, AI plays critical role for both students and teachers of the English language. This is supported by Li (2017) that "Artificial intelligence acts as a tool for enhancing English teaching".

That the PowerPoint training had a favourable impact on the lecturers' perception and skills related to the software. The positive ratings in terms of effectiveness, confidence, understanding, engagement, and recommendation indicated a successful training programme. However, it is important to note that these findings are specific to the examined lecturers and may not be generalizable to a larger population without further research. This finding is in cognisance with the findings of Smith (2019); Johnson and Brown (2018) stated that effective PowerPoint training that requires hands-on cognitive experience enhances lecturers' skills in PPT.

CONCLUSION

Artificial intelligence is also viewed as thread to librarians and the touch of humans in libraries, the eventual acceptance and incorporation of artificial intelligence into library services will no doubt reveal the numerous potential promises it has in librarianship. Artificial intelligence will not diminish the human touch in libraries, nor will it erode the library's connection with their patrons any time soon. PowerPoint slides have become an integral part of teaching and research, offering educators and researchers a platform to effectively convey information. When designed and implemented thoughtfully, PowerPoint slides can enhance learning outcomes, facilitate information retention, and promote student engagement. However, caution must be exercised to avoid information overload and ensure that PowerPoint slides serve as a supportive tool rather than a passive medium. By following best practices and incorporating interactive elements, educators and researchers can harness the full potential of PowerPoint slides to create impactful teaching and research experiences. The findings of the study demonstrated that PowerPoint literacy skill was lagging as many lecturers were still very much acquainted with using the traditional methods of presenting lectures in the classroom. Until the training was conducted, which significantly improved their utilisation skills in PowerPoint presentation for teaching of English language and library practices.

Limitations of the Study

The limitations of the study include its non-randomized quasi-experimental design, which may introduce biases and limit generalizability. The sample size of 301 lecturers from a single university may not represent lecturers from other institutions, impacting the external validity. Self-reported data using a Likert scale introduces the possibility of response bias. The focus on specific software tools (MS PowerPoint, Canva, and Gamma) may overlook other relevant technologies. Additionally, the recommendation to update trainers in fine and applied arts may not address the needs of trainers in other disciplines. These limitations call for caution in interpreting the findings and suggest the need for further research with larger, more diverse samples and consideration of broader technological aspects.

Implications of the Study:

The practical implications of this study are two-fold.

This study highlights the need for targeted training programmes and interventions to enhance PowerPoint literacy skills among university lecturers in Nigeria.

Addressing the identified gaps and challenges improve the quality of teaching and student engagement through visually appealing presentations.

Workshops, conferences, and seminars should be organized to update trainers on recent developments in information and communication technology.

Promotion, collaboration, knowledge exchange, and continuous professional development should be encouraged. These practical implications can contribute to the overall enhancement of education delivery and student learning outcomes in Nigerian universities through integration of technology in education, bridging the digital divide among lecturers, fostering collaboration and knowledge exchange.

RECOMMENDATIONS

The recommendations for this study emphasize the importance of improving PowerPoint literacy among teachers in teaching and research by continuously organising training programmes, workshops, or professional development initiatives.

Specifically, this paper recommends that:

Centres in Universities and Education Institutions should periodically train and retrain teachers through organising workshops, conferences and seminars in information and communication technology (ICT).
 Government, private sectors, and NGOs should provide researchers with grants to enable them adopt and implement the research recommendation of training individuals on PowerPoint Presentations for professional development and advancement.

REFERENCES

1. Afonughe, E., Onah, E. N., Uzoma, A. C., & Andor, S. E. (2021). Integration of Artificial Intelligence Tool (Ai-Chatbot) into Teaching and Learning: A Panacea for Improving Universities' Educational and Administrative Duties in South-South, Nigeria. Journal of Computational Science and Systems Biology, 14(2021), 357.
2. Aiyedun, T.G. (2020). Effect of animation teaching strategy on secondary school students' achievement, retention and interest in climate change in Lokoja, Kogi State. International Journal of Trend in Scientific Research and Development (IJTSRD), 4 (3) 944-949. https://www.ijtsrd.com/papers/ijtsrd30740.pdf
3. Almutawa, A., & Suwaidan, M. S. (2020). Students' perceptions regarding classroom attendance and its impact on their academic performance: Evidence from a developing country. Education + Training, 62(6), 693-706. https://doi.org/10.1108/ET-10-2019-0233
4. Álvarez, A. J., & Olatunde-Aiyedun, T. G. (2023). Bringing Project-Based Learning into Renewable and Sustainable Energy Education: A Case Study on the Development of the Electric Vehicle EOLO. Sustainability, 15(13), 1-32. https://doi.org/10.3390/su151310275
5. Bilal, M. (2023). Gamma is an AI-powered app that can convert any journal article into a presentation — in minutes. Retrieved from 8. https://threadreaderapp.com/thread/16519874933326299137.html
6. Ching, T., Himmelstein, D. S., Beaulieu-Jones, B. K., Kalinin, A. A., Do, B. T., Way, G. P., ... & Lizee, A. (2018). Opportunities and obstacles for deep learning in biology and medicine. Journal of the Royal Society Interface, 15(141), 20170387.
7. Croft, B. W., Metzler, D., & Strohman, T. (2015). Search engines: information retrieval in practice. Pearson Education, Inc. Retrieved June 16, 2019 from: http:// ciir.cs.umass.edu/downloads/SEIRiP.pdf
8. Ex Libris. (2019). How AI can enhance the value of research libraries. Retrieved October 4, 2019 from: www.libraryjournal.com/?detailStory=how-ai-can-enhancethe-value-of-research-libraries

9. Fryer, L., & Carpenter, R. (2006). Bots as Language Learning Tools. Language Learning & Technology, 7

10. Johnson, L., & Brown, K. (2018). Enhancing presentation skills through PowerPoint training. International Journal of Educational Development, 42, 78-92.

11. Li, R. (2020). Using Artificial Intelligence in Learning English as a Foreign Language: An Examination of IELTS LIULISHUO as an Online Platform. Journal of Higher Education Research, 1. https://doi.org/10.32629/jher.v1i2.178

12. Luo, M., & Cheng, L. (2020). Exploration of Interactive Foreign Language Teaching Mode Based on Artificial Intelligence. 2020 International Conference on Computer Vision, Image and Deep Learning (CVIDL), 285–290. https://doi.org/10.1109/CVIDL51233.2020.00-84

13. Mayer, R. E., & Moreno, R. (2013). Nine ways to reduce cognitive load in multimedia learning. Educational Psychologist, 38(1), 43-52.

14. Ogunode, N. J., Okwelogu, I. S., & Olatunde-Aiyedun, T. G. (2021). Challenges and problems of deployment of ICT facilities by public higher institutions during Covid-19 in Nigeria. International Journal of Discoveries and Innovations in Applied Sciences, 1(4), 30–37. http://openaccessjournals.eu/index.php/ijdias/article/view/213

15. Ogunode, N. J., Somadina, O. I., Yahaya, D. M., & Olatunde-Aiyedun, T. G. (2021). Deployment of ICT facilities by Post-Basic Education and Career Development (PBECD) during Covid-19 in Nigeria: Challenges and way forward. International Journal of Discoveries and Innovations in Applied Sciences, 1(5), 19–25. Retrieved from http://openaccessjournals.eu/index.php/ijdias/article/view/280

16. Ojelade, I.A., Aregbesola, B.G., Ekele, A., & Aiyedun, T.G. (2020). Effects of Audio-Visual Instructional Materials on Teaching Science Concepts in Secondary Schools in Bwari Area Council Abuja, Nigeria. The Environmental Studies Journal (TESJ), 3, (2) 52 – 61.

17. Reference.com. (2016). What is PowerPoint? www.reference.com>Technology>Software

18. Sallam, M., Malik, et al. (2023). ChatGPT Output Regarding Compulsory Vaccination and COVID-19 Vaccine Conspiracy: A Descriptive Study at the Outset of a Paradigm Shift in Online Search for Information. https://scite.ai/reports/10.7759/cureus.35029

19. Salvaris, M., Dean, D., & Tok, W. H. (2018). Deep Learning with Azure: Building and Deploying Artificial Intelligence Solutions on the Microsoft AI Platform. Apress.

20. Siering, G. (2015). Managing Innovation (and risk) in your teaching. Bloomington: Indiana University Press

21. Smith, J. (2019). Impact of PowerPoint training on lecturers' perception and skills. Journal of Educational Technology, 25(3), 123-137.

22. Sridevi, P. C., & Shanmugam, A. P. (2017). Artificial intelligence and its applications in Libraries. In E-Resources Management. Retrieved April 7, 2019 from: https://www.researchgate.net/publication/327831852_Artificial_Intelligence_and_its_applications_in_Libraries

23. Sundar Narasimhan | Digital Engineering & Technology, Mobile App | Comments are Closed | 2 November, 2023 |

24. Udensi, J. N., & Akor, P. U. (2016). Fundamentals of library and information science. Zaria, Nigeria: Ahmadu Bello University Press.

25. Unagha, A. O. (2010). Knowledge Organisation and Information Retrieval. Okigwe: Whyterm Publishers.

26. Wonu, N., & Bupo, G. (2022). Application of constructionism to research-related statistical computing training workshop at Rivers State University Port Harcourt Nigeria. Faculty of Natural and Applied Sciences Journal of Scientific Innovations, 3(3), 121–129. Retrieved from https://www.fnasjournals.com/index.php/FNAS-JSI/article/view/91

27. Yusuf, O. B. A. (2023). Comparative effects of digital instructional video and PowerPoint presentation on academic achievement and learning retention of basic technology students. Nigerian Online Journal of Educational Sciences and Technology, 5(1). http://nojest.unilag.edu.ng/article/view/1731.