British Journal of Multidisciplinary and Advanced Studies,7(4),12-25, 2026

Education, Learning, Training & Development

Print ISSN: 2517-276X

Online ISSN: 2517-2778

https://bjmas.org/index.php/bjmas/index

Publication of the European Centre for Research Training and Development -UK

Effect of Artificial Intelligence Literacy and Information Literacy Training On Research Productivity of Academic Staff in Jigawa State College of Education, Gumel

[1.] Abubakar Abdullahi Aliyu
Science Education, School of General Studies Education. Jigawa State College of Education, Gumel.

[2.] Shafiu Adamu
Language and Communication, School of General Studies Education.Jigawa State College of Education, Gumel.

[3.] Sadisu Muhammad
Social Science and Humanities Education, School of General Studies Education. Jigawa State College of Education, Gumel

doi: https://doi.org/10.37745/bjmas.0567 Published July 07, 2026

Citation: Aliyu A.A., Adamu S. and Muhammad S. (2026) Effect of Artificial Intelligence Literacy and Information Literacy Training On Research Productivity of Academic Staff in Jigawa State College of Education, Gumel, *British Journal of Multidisciplinary and Advanced Studies*,7(4),12-25

Abstract: *The study examined the effect of Artificial Intelligence literacy and information literacy training on research productivity among academic staff in Jigawa State College of Education, Gumel. The study was guided by six research objectives, six corresponding research and two null hypotheses The study adopted a descriptive survey research design. A structured questionnaire was used for data collection from 150 academic staff selected through stratified and simple random sampling techniques. Descriptive and inferential statistics were used to analyze the data collected. Some of the findings of the study revealed that academic staff possess moderate AI literacy skills; information literacy training positively influences research productivity e.t.c. The study concluded that Artificial Intelligence literacy and information literacy training are significant determinants of research productivity among academic staff in Jigawa State College of Education, Gumel. Based on the findings of the study, some recommendations were given as thus; The management of Jigawa State College of Education, Gumel should organize regular workshops and seminars on Artificial Intelligence applications for academic research. Information literacy training programs should be strengthened to improve lecturers' competencies in database searching, referencing, and information evaluation e.t.c*

Keywords: artificial intelligence, information literacy, training, research productivity, academic staff

INTRODUCTION

The advancement of digital technologies has significantly transformed the educational sector globally. Among these emerging technologies, Artificial Intelligence (AI) has become one of the most influential innovations shaping teaching, learning, administration, and research activities in higher institutions. AI refers to computer systems and applications capable of performing tasks that normally require human intelligence, such as data analysis, problem-solving, language processing, and decision-making (Russell & Norvig, 2021). In higher education institutions, AI tools are increasingly being utilized for literature searches, plagiarism detection, automated referencing, data analysis, academic writing support, and research dissemination.

Research productivity is a critical indicator used to evaluate the performance and effectiveness of academic staff in tertiary institutions. It encompasses scholarly outputs such as journal publications, conference papers, textbooks, research grants, and other intellectual contributions (Bland et al., 2005). Academic staff are expected to contribute to knowledge generation through quality research that addresses societal and educational challenges. However, research productivity in many Nigerian tertiary institutions remains relatively low due to several challenges, including poor research skills, inadequate funding, limited digital competencies, and insufficient access to technological tools.

Artificial Intelligence literacy has emerged as an essential competency for academic staff in the contemporary digital era. AI literacy refers to the ability to understand, evaluate, and effectively use AI technologies responsibly and ethically (Ng et al., 2021). Lecturers with AI literacy skills are better positioned to use AI-driven research tools for information retrieval, manuscript development, statistical analysis, and collaborative research activities. AI technologies such as ChatGPT, Grammarly, Turnitin, Scopus AI tools, and data analytics software have simplified many aspects of academic research and publication processes.

In addition to AI literacy, information literacy training is another critical factor influencing research productivity among academic staff. Information literacy refers to the ability to recognize information needs and effectively locate, evaluate, organize, and use information ethically for academic and professional purposes (Association of College and Research Libraries [ACRL], 2016). Information literacy training equips academic staff with competencies in database searching, citation management, digital resource utilization, academic writing, and scholarly communication.

The importance of information literacy in higher education has increased due to the vast amount of information available through digital platforms. Academic staff who possess strong information literacy skills are more likely to access credible scholarly materials, avoid plagiarism, and produce quality research outputs. According to Owusu-Ansah (2003), information literacy is fundamental to lifelong learning and academic excellence because it enables researchers to critically evaluate and effectively apply information in solving research problems.

Despite the growing relevance of AI literacy and information literacy training, many academic staff in Nigerian colleges of education still face challenges in adopting modern digital technologies for research activities. Inadequate ICT infrastructure, unstable electricity supply, poor internet connectivity, insufficient institutional support, and lack of regular training programs continue to limit effective utilization of AI tools and digital information resources (Aina, 2013). Consequently, research productivity among lecturers in some institutions remains below expectations.

Jigawa State College of Education, Gumel, like many tertiary institutions in Nigeria, operates in an environment where academic staff are increasingly required to publish scholarly works for career advancement, accreditation, and institutional ranking. However, there is limited empirical evidence regarding how AI literacy and information literacy training affect the research productivity of academic staff in the institution. Therefore, this study seeks to investigate the effect of Artificial Intelligence literacy and information literacy training on research productivity among academic staff in Jigawa State College of Education, Gumel.

Operational Definition of Terms:

Artificial Intelligence Literacy

Artificial Intelligence literacy refers to the knowledge, skills, and competencies required to understand, evaluate, and effectively use AI technologies and applications for academic and research purposes.

Information Literacy Training

Information literacy training refers to organized educational activities aimed at equipping individuals with skills for locating, evaluating, managing, and using information effectively and ethically.

Training

Training refers to the process of teaching and developing the knowledge and skills needed to find, evaluate, use, and communicate information effectively.

Research Productivity

Research productivity refers to the quantity and quality of scholarly outputs produced by academic staff, including journal articles, conference papers, books, and other academic publications.

Academic Staff

Academic staff refers to lecturers, instructors, and other teaching personnel engaged in teaching, research, and community service activities in tertiary institutions.

Statement of the Problem

Research productivity is an important measure of academic excellence and institutional development in higher education. Academic staff are expected to contribute meaningfully to knowledge through quality research publications and scholarly activities. However, evidence suggests that research productivity among lecturers in many Nigerian tertiary institutions is relatively low due to inadequate research competencies, poor technological skills, and limited access to digital resources.

The emergence of Artificial Intelligence technologies has transformed research processes globally by improving information retrieval, data analysis, and academic writing efficiency. Similarly, information literacy training enhances researchers' ability to identify, evaluate, and utilize scholarly information effectively. Despite these benefits, many academic staff in colleges of education still lack sufficient AI literacy and information literacy competencies required for effective research productivity.

In Jigawa State College of Education, Gumel, lecturers face challenges such as inadequate ICT facilities, limited internet access, poor exposure to AI-driven research tools, and insufficient training opportunities. These challenges may negatively influence their ability to conduct quality research, publish scholarly works, and compete effectively in the global academic environment.

Although studies have examined ICT utilization and research productivity in tertiary institutions, limited attention has been given to the combined influence of AI literacy and information literacy training on research productivity among academic staff in colleges of education. Therefore, this

study investigates the effect of Artificial Intelligence literacy and information literacy training on research productivity among academic staff in Jigawa State College of Education, Gumel.

Objectives of the Study

The main objective of this study is to examine the effect of Artificial Intelligence literacy and information literacy training on research productivity among academic staff in Jigawa State College of Education, Gumel.

The specific objectives are to:

1. determine the level of Artificial Intelligence literacy among academic staff in Jigawa State College of Education, Gumel;
2. examine the extent of information literacy training received by academic staff;
3. investigate the level of research productivity among academic staff;
4. determine the effect of Artificial Intelligence literacy on research productivity;
5. examine the effect of information literacy training on research productivity; and
6. identify the challenges affecting the utilization of AI literacy and information literacy skills for research productivity.

Research Questions

The study seeks to answer the following research questions:

1. What is the level of Artificial Intelligence literacy among academic staff in Jigawa State College of Education, Gumel?
2. To what extent do academic staff receive information literacy training?
3. What is the level of research productivity among academic staff?
4. What effect does Artificial Intelligence literacy have on research productivity?
5. What effect does information literacy training have on research productivity?
6. What challenges affect the utilization of AI literacy and information literacy skills for research productivity?

Research Hypotheses

The following hypotheses will guide the study:

H01: There is no significant relationship between Artificial Intelligence literacy and research productivity among academic staff in Jigawa State College of Education, Gumel.

H02: Information literacy training has no significant effect on research productivity among academic staff in Jigawa State College of Education, Gumel.

Significance of the Study

The findings of this study will be beneficial to academic staff, institutional administrators, policymakers, librarians, and researchers.

Academic staff will benefit from the study by gaining awareness of the importance of AI literacy and information literacy skills in enhancing research productivity. The study will also encourage lecturers to embrace digital technologies and modern research tools for scholarly activities.

Institutional administrators will benefit from the findings by understanding the need to organize regular training programs on AI applications and information literacy for academic staff. The study may also assist management in improving ICT infrastructure and digital resource accessibility.

Policymakers and educational authorities will benefit from the study because the findings may guide policy formulation on digital literacy development and technology integration in tertiary institutions.

Librarians and information professionals will find the study useful in designing information literacy programs that support research and academic development.

Researchers and future scholars will benefit from the study because it will contribute to existing literature on AI literacy, information literacy, and research productivity in higher education.

Scope of the Study

The study focuses on the effect of Artificial Intelligence literacy and information literacy training on research productivity among academic staff in Jigawa State College of Education, Gumel. The study covers lecturers from different schools and departments within the institution. The variables of interest include AI literacy, information literacy training, and research productivity.

British Journal of Multidisciplinary and Advanced Studies,7(4),12-25, 2026
Education, Learning, Training & Development
Print ISSN: 2517-276X
Online ISSN: 2517-2778
https://bjmas.org/index.php/bjmas/index
Publication of the European Centre for Research Training and Development -UK

RESEARCH METHODOLOGY

This chapter presents the methodology adopted for the study titled Effect of Artificial Intelligence Literacy and Information Literacy Training on Research Productivity of Academic Staff in Jigawa State College of Education, Gumel. It discusses the research design, population of the study, sample and sampling techniques, instrument for data collection, validity and reliability of the instrument, procedure for data collection, and methods of data analysis.

Research Design

The study adopted a descriptive survey research design. A descriptive survey design is considered appropriate because it enables the researcher to obtain information from a representative sample of respondents regarding their opinions, attitudes, and experiences concerning Artificial Intelligence literacy, information literacy training, and research productivity.

According to Creswell and Creswell (2018), survey research design helps researchers collect quantitative data that can be analyzed statistically to explain trends and relationships among variables. The design is suitable for this study because it allows the researcher to examine the relationship between AI literacy, information literacy training, and research productivity among academic staff.

Population of the Study

The population of the study comprises all academic staff of Jigawa State College of Education, Gumel. The total number of the academic staff is 300 include lecturers from various schools and departments within the institution.

The choice of the institution is based on the increasing demand for research productivity among lecturers and the growing relevance of digital technologies and AI tools in academic research activities.

Sample Size and Sampling Technique

A sample size of 150 academic staff was selected for the study using stratified random sampling and simple random sampling techniques.

The stratified sampling technique was used to categorize academic staff according to schools and departments to ensure equal representation. Thereafter, simple random sampling was employed to select respondents from each stratum.

This sampling method is appropriate because it provides all academic staff equal opportunities of participation and ensures adequate representation of different academic units in the institution.

Instrument for Data Collection

The instrument used for data collection was a structured questionnaire titled:

"Artificial Intelligence Literacy, Information Literacy Training and Research Productivity Questionnaire (AILILTRPQ)."

The questionnaire was divided into four sections:

Section A: Demographic information of respondents.

Section B: Items on Artificial Intelligence literacy.

Section C: Items on information literacy training.

Section D: Items on research productivity.

The questionnaire was designed using a four-point Likert scale of:

Strongly Agree (SA) = 4

Agree (A) = 3

Disagree (D) = 2

Strongly Disagree (SD) = 1

The instrument contained close-ended questions to facilitate easy analysis and interpretation of data.

Validity of the Instrument

Validity refers to the extent to which an instrument measures what it is intended to measure. To ensure content and face validity, the questionnaire was submitted to experts in Educational

Technology, Library and Information Science, and Research Measurement and Evaluation for scrutiny and corrections.

Their suggestions regarding clarity, relevance, grammar, and appropriateness of items were incorporated into the final version of the instrument.

According to Kumar (2019), expert review is one of the effective methods of ensuring the validity of research instruments.

Reliability of the Instrument

Reliability refers to the consistency and stability of a research instrument in measuring variables. A pilot study was conducted using 20 academic staff from another college of education outside the study area.

The data collected from the pilot study were analyzed using Cronbach Alpha reliability statistics. The reliability coefficient obtained was 0.82, indicating that the instrument was reliable for data collection because the coefficient exceeded the acceptable threshold of 0.70 recommended by Nunnally and Bernstein (1994).

Procedure for Data Collection

The researcher obtained an introductory letter from the department and sought permission from the management of Jigawa State College of Education, Gumel.

Copies of the questionnaire were administered directly to the respondents by the researcher with the assistance of research assistants. Respondents were given adequate time to complete the questionnaire, after which the completed copies were retrieved immediately to ensure a high response rate.

Method of Data Analysis

Data collected for the study were analyzed using descriptive and inferential statistics.

Descriptive statistics such as frequency counts, percentages, mean, and standard deviation were used to answer the research questions.

Inferential statistics, specifically Pearson Product Moment Correlation (PPMC) and regression analysis, were used to test the hypotheses at 0.05 level of significance.

Decision rule for the research questions was based on a criterion mean of 2.50. Any mean score equal to or above 2.50 was accepted, while any mean score below 2.50 was rejected.

DATA PRESENTATION, ANALYSIS, AND DISCUSSION OF FINDINGS

This chapter presents the analysis and interpretation of data collected from respondents. The analysis was based on the research questions and hypotheses formulated for the study.

A total of 150 questionnaires were distributed to academic staff of Jigawa State College of Education, Gumel. Out of these, 142 copies were properly completed and returned, representing a response rate of 94.7%.

Demographic Information of Respondents

Table 1: Gender Distribution of Respondents

Gender	Frequency	Percentage
Male	98	69.0%
Female	44	31.0%
Total	142	100%

The table indicates that majority of the respondents were male lecturers.

Research Question One

What is the level of Artificial Intelligence literacy among academic staff?

Items	Mean	Decision
I can use AI tools for literature search	3.12	Accepted
I use AI applications for academic writing	3.01	Accepted
I understand ethical use of AI in research	2.95	Accepted
I can utilize AI tools for data analysis	2.88	Accepted
	Grand Mean	= 2.99

The result indicates that academic staff possess a moderate level of AI literacy.

Research Question Two

To what extent do academic staffs receive information literacy training?

Items	Mean	Decision
I attend workshops on information literacy	2.85	Accepted
I have received training on database searching	3.00	Accepted
I understand citation and referencing styles	3.15	Accepted
I can evaluate online scholarly resources	3.10	Accepted

Grand Mean = 3.03

The findings reveal that academic staff receive information literacy training to a considerable extent.

Research Question Three

What is the level of research productivity among academic staff?

Items	Mean	Decision
I publish articles in academic journals regularly	2.76	Accepted
I participate in conferences and seminars	3.08	Accepted
I contribute to collaborative research projects	2.81	Accepted
I publish books and book chapters	2.40	Rejected

Grand Mean = 2.76

The result shows that the level of research productivity among academic staff is moderate.

Test of Hypothesis One

H01: There is no significant relationship between Artificial Intelligence literacy and research productivity among academic staff.

Variables	N	r-value	p-value	Decision
AI Literacy and Research Productivity	142	0.68	0.001	Rejected

Since the p-value of 0.001 is less than the 0.05 level of significance, the null hypothesis is rejected. This implies that there is a significant relationship between AI literacy and research productivity among academic staff.

Test of Hypothesis Two

H02: Information literacy training has no significant effect on research productivity among academic staff.

Variables	Beta	t-value	p-value	Decision
Information Literacy Training	0.72	5.84	0.000	Rejected

The result indicates that information literacy training significantly influences research productivity among academic staff.

DISCUSSION OF FINDINGS

The findings revealed that academic staff possess moderate AI literacy skills. This finding agrees with Ng et al. (2021), who reported that AI literacy enhances researchers' ability to utilize technological tools effectively for academic purposes.

The study also found that information literacy training significantly improves research productivity. This finding supports the study of Owusu-Ansah (2003), who emphasized that information literacy competencies improve access to scholarly information and quality research output.

Furthermore, the study established a significant relationship between AI literacy and research productivity. This implies that lecturers who possess AI-related competencies are more likely to conduct quality research and publish scholarly works.

The study also identified challenges affecting research productivity, including inadequate ICT infrastructure, poor internet connectivity, limited institutional support, and insufficient training opportunities.

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

This section presents the summary of the study, conclusion, and recommendations:

Summary of the Study

The study examined the effect of Artificial Intelligence literacy and information literacy training on research productivity among academic staff in Jigawa State College of Education, Gumel

The study adopted a descriptive survey research design. A structured questionnaire was used for data collection from 150 academic staff selected through stratified and simple random sampling techniques. Descriptive and inferential statistics were used to analyze the data collected. The findings revealed that: academic staff possess moderate AI literacy skills; information literacy training positively influences research productivity; I literacy significantly affects research productivity; and inadequate ICT facilities and insufficient training opportunities hinder effective research productivity.

Conclusion

The study concluded that Artificial Intelligence literacy and information literacy training are significant determinants of research productivity among academic staff in Jigawa State College of Education, Gumel.

The integration of AI tools and effective information literacy competencies enhances lecturers' ability to access scholarly information, conduct research efficiently, and improve publication output. Therefore, improving digital literacy and institutional technological support is essential for promoting research productivity in tertiary institutions.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. The management of Jigawa State College of Education, Gumel should organize regular workshops and seminars on Artificial Intelligence applications for academic research.

2. Information literacy training programs should be strengthened to improve lecturers' competencies in database searching, referencing, and information evaluation.

3. The institution should improve ICT infrastructure, internet connectivity, and access to digital research resources.

4. Academic staff should be encouraged to utilize AI-driven research tools ethically and responsibly.

5. Government and educational stakeholders should provide adequate funding for digital literacy development and research activities in tertiary institutions.

Contribution to Knowledge

The study contributes to knowledge by providing empirical evidence on the relationship between Artificial Intelligence literacy, information literacy

REFERENCES

Aina, L. O. (2013). Information and knowledge management in the digital age. Third World Information Services Limited.

Association of College and Research Libraries. (2016). Framework for information literacy for higher education. American Library Association.

Bland, C. J., Center, B. A., Finstad, D. A., Risbey, K. R., & Staples, J. (2005). The impact of appointment type on the productivity and commitment of full-time faculty in research and doctoral institutions. The Journal of Higher Education, 76(1), 89–123.

Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). Sage Publications.

Kumar, R. (2019). Research methodology: A step-by-step guide for beginners (5th ed.). Sage Publications.

Ng, D. T. K., Leung, J. K. L., Chu, S. K. W., & Qiao, M. S. (2021). Conceptualizing AI literacy: An exploratory review. Computers and Education: Artificial Intelligence, 2, 100041. https://doi.org/10.1016/j.caeai.2021.100041

Nunnally, J. C., & Bernstein, I. H. (1994). Psychometric theory (3rd ed.). McGraw-Hill.

Owusu-Ansah, E. K. (2003). Information literacy and the academic library: A critical look at a concept and the controversies surrounding it. The Journal of Academic Librarianship, 29(4), 219–230.

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

UNESCO. (2021). AI and education: Guidance for policy-makers. UNESCO Publishing.