

---

## ARTIFICIAL INTELLIGENCE (AI) IN FAMILY COUNSELLING AND ACADEMIC PERFORMANCE OF SENIOR SECONDARY SCHOOL STUDENTS IN OGOJA EDUCATION ZONE, CROSS RIVER STATE

By

**Ukpogu, Jacob Oluchukwu**

Department of Guidance and Counseling  
Faculty of Educational Foundation Studies  
University of Calabar.

### Abstract

*The objective of this study was to investigate the role of Artificial Intelligence in family counselling and academic performance of secondary school students in Ogoja Education Zone, Cross River State, Nigeria. The objective and the hypothesis of the study was to investigate the role of Artificial Intelligence in family counselling of students' academic performance, the same objective was translated to hypothesis. The study adopted the ex-post facto research design. The population of the study is made up of SSII students in 90 public secondary schools in Ogoja Education Zone, Cross River State, Nigeria. According to available data from Ministry of Education, Calabar (2025) there are 7200 SSII students in 90 public secondary schools in the zone. To select the sample size of the study, Taro Yamane Formular was applied, the sample size stood at 378. The proportionate sampling was used to distribute the sample based on each Local Government Education Authority within the Education Zone. To collect data for the study, the researcher's designed questionnaire was used. The Role of Artificial Intelligence in Family Counselling and Academic Performance of Secondary School Students Questionnaire (RAIFCAPQ) consists of two sections, section A is concerned with the demographic data of respondents while the sections B contain 18 items which was used to measure the independent variables of the study. The instrument was validated by two experts in test and measurement from the University of Calabar. to ascertain the reliability of the instrument, the Cronbach Alpha reliability procedure was employed and the exercise produced reliability coefficients ranging from .79 - .91 respectively. Data collected were analysed using multiple linear regression analysis at .05 level of significance. The result showed that there was a significant influence of artificial intelligence on family counselling and students' academic performance in Ogoja Education Zone, Cross River State, Nigeria. Based on the result obtained, it was recommended among other things that counselling services should be provided in public secondary schools using innovative technologies.*

**Keywords:** Artificial Intelligence, Counselling, Family, Students, Academic Performance

## Introduction

Education has been classified as one of the urgent needs of nations for speedy sustainable development in the 21<sup>st</sup> century. This is because education is needed for manpower development, knowledge advancement and improvement in science and technology. Yelloiwe in Edionwe (2024) stated that education is important to development of human resources, knowledge impartation, skills acquisition and character development of individuals. Education can also be seen as an instrument used to facilitate the freedom of mankind from ignorance to self-awareness and societal development. Usha in Edo\ionwe (2024) maintained that education entails the art of teaching and training an individual through the impartation of skills need for self-survival and contribution to national development. In the 21<sup>st</sup> century, the use of technology has help to shape the process of carrying out activities almost in all sphere of life. In education, technology has revolutionized teaching and learning experiences, making it easy and convenient for teachers and student to interact without being in a conventional classroom situation.

The integration of Artificial Intelligence (AI) in education has transformed academic learning, offering both opportunities and challenges for students' academic development. Artificial Intelligence. Essien, Adung and Anam, (2024) buttress on the application of Artificial Intelligence in Education in the development of artificial intelligence technology, modern education will be combined with more technologies, such as speech semantic recognition, image recognition. The rapid development of AI is changing all aspects of human endeavour including education. Artificial Intelligence plays a crucial role in all stages of the learning process. Edtech (2020) stated that AI offers students mix opportunities in learning and academic development. Hwang et al, (2020) asserts that AI impact in education is felt from the stand point of personalized learning experiences to intelligent tutoring systems which provide personalized guidance, support and feedbacks based on student learning patterns and individual difference in learning. The integration of AI into academic activities exposes one to series of questions ranging from equity, gender, accessibility and acceptance among traditional teaching strategies.

Hennekeuser et al, (2024) opine that artificial intelligence role in education is both transformative and multifaceted. This is because the use of AI has personalized teaching and learning through the use of educational contents in meeting individual student's needs. According to studies by Johnson and Smith (2029) on the impact of AI on students' academic performance, it has been revealed that students in personalized learning situations tend to display improved self-efficacy and more positive attitude toward their education than those without.

Baker (2021) stressed that AI tools are increasingly been used by both teachers and students in enhancing learning processes. Teachers uses AI tools such as ChatGPT to prepare for lessons while students use various AI tools to read, access information and related with others from different continents. For example, one of such AI tools – Adaptive Learning System, is mostly used to enhance students' academic engagements through the provision of on-time feedback

and real-time learning pathways. Luckin et al (2016) opine that the experiences gotten from the use of AI has help to improve educational services delivery. Zawacki-Richter et al (2019) also maintained that the use of AI has help students broaden their knowledge, although it disadvantages need to be checked. Artificial Intelligence have impacted on students' academic performance over the years. This is because AI have provided students with relevant materials and reading strategies during examinations. Mallillin and Carag (2020) posit that AI is tailored with various information and materials to assist students during learning.

Academic performance implies the result of teaching and learning experience over a period of time. Its entails the different means students react to their academic materials as assigned to them by their teachers (Edionwe, 2024). This is why students' academic performance is often measured by examination scores of students.

Family counselling is one of the counselling services provided by counsellors. It is home-based counselling services recognised and well-researched field of counselling that has undergone some historic changes in all counselling specialties. Family counselling is described as an intensive in-home counselling which is conducted within consumers' homes. It often involves face-to-face engagement typical of traditional outpatient family counselling. Basically, family counselling is designed to provide children's mental health and academic services. In this kind of counselling, the child in homes are the top clients. Treatment and therapy are often planned and developed with the aim to address certain issues as they manifest within the family and also provide relevant intervention plan. The use of AI in counselling has made counselling more effective e now than it was two decades ago. Counsellors now have options in selecting appropriate tools to use in rendering services.

AI integration is rapidly reshaping counselling practice. Many counsellors have now tapped into it in preparing students for technological shift. Notwithstanding the increase in utilization of A tools in counselling, traditional therapeutic approaches still thrive. Recent studies abound that highlights limitations of these traditional approaches. One of such is efficacy – prompting the need for more reliable, scalable, innovative approaches that can improve counselling outcomes. Thus, Artificial Intelligence aided tools offers real-time insights into thereapist behaviour, automate measurement-based care and streamline supervision, thereby improving counselling services and adding value to counselling profession. The use of AI in family counselling the counsellor to explores options on tracking causes of certain behaviour, possible interventions, identify clinical options and evaluate students' educational outcomes.

The state of students' academic performance in both internal external examinations in public secondary schools in Ogoja Education Zone of Cross River State have received attention from parents, general public and the government. Despite huge resources expanded by government in education in terms of teacher training, provision of infrastructure and payment of teachers' salary, students' academic performance is yet to be commensurate with these government efforts. Parents keep pointing accusing fingers at teachers for not taking their duties seriously, however, no one is paying attention to the role of Artificial Intelligence and counselling. These two factors have emerged as some of the most crucial factors that is shaping academic

development of students in the 21<sup>st</sup> century. It is on this backdrop that the current study sought to investigate the role of Artificial Intelligence and family counselling in students' academic performance in Ogoja Education Zone, Cross River State, Nigeria.

The study is poised to investigate the role of Artificial Intelligence and family counselling on students' academic performance in Ogoja Education Zone, Cross River State, Nigeria. Specifically, the study sought to find out how Artificial Intelligence and family counselling influence students' academic performance.

To what extent does artificial intelligence influence family counselling and students' academic performance in public secondary schools in Ogoja Education Zone, Cross River State?

Artificial intelligence does not significantly influence family counselling and students' academic performance in public secondary schools in Ogoja Education Zone, Cross River State.

### **Literature review**

Vieriu and Petrea (2025) investigated the impact of AI technologies on students' learning processes and academic performance, with a focus on their perceptions and the challenges associated with AI adoption. Conducted at the National University of Science and Technology POLITEHNICA Bucharest, this research involved second-year students who had direct experience with AI enhanced learning environments. Using purposive sampling, 85 participants were selected to ensure relevance. Data were collected through a structured questionnaire comprising 11 items as follows: seven closed-ended questions assessing perceptions, usage, and the effectiveness of AI tools; and four open-ended questions exploring experiences, expectations, and concerns. Quantitative data were analysed using frequency and percentage calculations, while qualitative responses were subjected to thematic analysis, incorporating both vertical (individual responses) and horizontal (cross-dataset) approaches to ensure comprehensive theme identification. The findings reveal that AI offers significant benefits, including personalized learning, improved academic outcomes, and enhanced student engagement. However, challenges such as over-reliance on AI, diminished critical thinking skills, data privacy risks, and academic dishonesty were also identified. The study underscores the necessity of a structured framework for AI integration, supported by ethical guidelines, to maximize benefits while mitigating risks. In conclusion, while AI holds immense potential to enhance learning efficiency and academic performance, its successful implementation requires addressing concerns related to accuracy, cognitive disengagement, and ethical implications. A balanced approach is essential to ensure equitable, effective, and responsible learning experiences in AI-enhanced educational environments

Mallillin (2024) examines the impact of artificial intelligence (AI) on students' academic performance, focusing on factors such as improved student performance, attitudes toward learning, motivation for study habits, and learning mechanisms. Further, it aims to evaluate and analyse how AI enhances student academic outcomes. A mixed-methods approach, incorporating focus group discussions (FGD), was used to gather quantitative and qualitative

data. Random sampling was employed to select a sample size of 100 respondents based on predefined criteria. The results indicate that AI effectively targets the specific learning needs of students, facilitating comprehensive and improved learning experiences. It identifies struggling learners and provides necessary interventions and support to enhance their academic performance. Additionally, AI accurately measures and enhances students' attitudes toward learning, offering deeper insights into the learning process. It also boosts students' motivation toward study habits and learning behaviour. Furthermore, AI's adaptive learning mechanisms guide students' learning processes and provide valuable feedback.

Edionwe (2024 ) examined the influence of artificial intelligence on academic performance of business education students in Public Universities in South-South Nigeria. The aspect of Artificial intelligence investigated were perceived course mastery, research complexity and functionality. Four research questions were rise and answered, while four null hypotheses formulated and tested at 0.05 level of significance. The descriptive research design was adopted. The population of the study was 388 postgraduate students from tertiary institutions in South-South Nigeria. The simple random sampling technique was employed and the sample size was 232 which was 60% of the population. The instrument was questionnaire. The instrument was face and content validated. The Cronbach Alpha value for the instruments showed a reliability coefficient of 0.81 was obtained. Data collected from respondents calculated with Mean, Standard Deviation and t-test Statistics. It shows that usage of perceived course mastery, complexity and functionality has positive result on Business education postgraduate students' academic performance. Also, shows significant difference between the mean responses of Business Education \postgraduate students on the influence of artificial intelligence on academic performance. The study concluded that artificial intelligence does influences Business Education postgraduate students' academic performance. The study recommended amongst others that institutions of higher learning should put in place facilities like a functioning and effective Internet service usage for artificial intelligence tools to be assessable for academic purposes by the Business Education postgraduate students

## Methods

The objective of this study was to investigate the role of Artificial Intelligence in family counselling and academic performance of secondary school students in Ogoja Education Zone, Cross River State, Nigeria. The study evolves around the following variables; artificial intelligence, family counselling and students' academic performance. The study adopted the ex-post facto research design. The population of the study is made up of SSII students in 90 public secondary schools in Ogoja Education Zone, Cross River State, Nigeria. According to available data from Ministry of Education, Calabar (2025) there are 7200 SSII students in 90 public secondary schools in the zone. To select the sample size of the study, Taro Yamane Formular was applied, the sample size stood at 378. The proportionate sampling was used to distribute the sample based on each Local Government Education Authority within the Education Zone. To collect data for the study, the researcher's designed questionnaire was used. The questionnaire was titled Artificial Intelligence, Family Counselling and Students'



Academic Performance Questionnaire (AIFCSAPQ)". The questionnaire consists of two sections; section A is concerned with the demographic data of respondents while the sections B contain 18 items which were used to measure the independent variables of the study. The instrument was validated by two experts in Test and Measurement from the University of Calabar. To ascertain the reliability of the instrument, the Cronbach Alpha reliability procedure was employed and the exercise produced reliability coefficients 0.91. Data collected were analysed using multiple linear regression analysis at .05 level of significance. The result showed that there was a significant influence of artificial intelligence on family counselling and students' academic performance in Ogoja Education Zone, Cross River State, Nigeria.

## Results

### Research question

To what extent does artificial intelligence influence family counselling and students' academic performance in public secondary schools in Ogoja Education Zone, Cross River State?

Table 1: Simple Linear Regression for the extent to which artificial intelligence influence family counselling and students' academic performance in public secondary schools in Ogoja Education Zone, Cross River State

Variables	R	R Square	Adjusted R	St Err of Est
AI, Family Counselling	.922 <sup>a</sup>	.020	.017	8.43664
Students' academic perf				

Entries in Table 1 report the extent to which artificial intelligence influence family counselling and students' academic performance in public secondary schools in Ogoja Education Zone, Cross River State. The R coefficient (.922) is the linear correlation (regression) between artificial intelligence, family counselling and students' performance. The coefficient of determination (.850) shows that artificial intelligence contributed (20%) to variation in students academic performance in public secondary schools in Ogoja Education Zone, Cross River State, Nigeria.

## Hypothesis

Artificial intelligence does not significantly influence family counselling and students' academic performance in public secondary schools in Ogoja Education Zone, Cross River State.

Table 2: Simple Linear regression of the relationship between Artificial intelligence, family counselling and students' academic performance in public secondary schools in Ogoja Education Zone, Cross River State.

Variables	Sources of Variation	Sums of Squares	Df	Means Squares	F-Cal	Decision at P<.05
AI, family	Regression	3489.447	2	1744.724	10.86	.000
Counselling	Residue	616.153	375	1.643		
Student academic perf	<b>Total</b>	<b>4105.601</b>	<b>377</b>			

\*p<.05 significant

The result in Table 2 shows that the calculated F-value of 10.86 is greater than the significant value of .05 with 2 and 375 degree of freedom. With this result, the null hypothesis which states that Artificial intelligence does not significantly influence family counselling and students' academic performance in public secondary schools in Ogoja Education Zone, Cross River State. is rejected and the alternate hypothesis accepted. The result implies that artificial intelligence does significantly influence family counselling and students' academic performance in public secondary schools in Ogoja Education Zone, Cross River State.

### Discussion of findings

The result of the statistical analysis in Table 1 and 2 showed a significant influence of the use of Artificial Intelligence, family counselling on students' academic performance. This result is connected to the fact that AI as a leading technological innovation is improving lives and adding values to work processes in all works of life. AI tools are increasingly being embraced by teachers and students for the purpose of exploring opportunities that enhance teaching and learning activities. Family counselling on the other hand is a home-based counselling service for students targeted at helping students cope with challenges in their health, education and social interactions.

This result corroborates with findings of Vieriu and Petrea (2025) who investigated the impact of AI technologies on students' learning processes and academic performance, with a focus on their perceptions and the challenges associated with AI adoption. The findings revealed that AI offers significant benefits, including personalized learning, improved academic outcomes, and enhanced student engagement. However, challenges such as over-reliance on AI, diminished critical thinking skills, data privacy risks, and academic dishonesty were also identified. The study underscores the necessity of a structured framework for AI integration, supported by ethical guidelines, to maximize benefits while mitigating risks. In conclusion, while AI holds immense potential to enhance learning efficiency and academic performance, its successful implementation requires addressing concerns related to accuracy, cognitive disengagement, and ethical implications. A balanced approach is essential to ensure equitable, effective, and responsible learning experiences in AI-enhanced educational environments

Also, the result is in line with the finding of Mallillin (2024) on the impact of artificial intelligence (AI) on students' academic performance, focusing on factors such as improved student performance, attitudes toward learning, motivation for study habits, and learning mechanisms. The results indicate that AI effectively targets the specific learning needs of students, facilitating comprehensive and improved learning experiences. It identifies struggling learners and provides necessary interventions and support to enhance their academic performance. Additionally, AI accurately measures and enhances students' attitudes toward learning, offering deeper insights into the learning process. It also boosts students' motivation toward study habits and learning behaviour. Furthermore, AI's adaptive learning mechanisms guide students' learning processes and provide valuable feedback.

## Conclusion

From the foregoing, it can be established based on the result and earlier literature reviewed, that AI is a game changer in education. Its application and integration have brought effectiveness and efficiency educational service delivery over the years. Although there are concerns about the dangers it poses if not regulated among student, as it can affect their reading habits. Family counselling in the other hand have been proven to be very effective in reaching out to children and providing counselling services at home basis. Through this medium, students find it convenient to express themselves in the comfort of their homes on issues that bother their mental health, career aspiration and academic development.

## Recommendations

Based on the result of the study, the following recommendations were reached

- i. School counsellors should be given opportunity to attend special training on the use of AI in counselling
- ii. Family counselling services should be made available to students in their home. Government and NGOs can help provide funds for counsellor to provide these services to help students especially those who stay around the school benefit
- iii. Counselling services on academic development and career choices should be provided in all public secondary schools in the state. This is to help students understand their choice of studies and their career path.

## References

- Baker, J. A. (2021). Artificial intelligence in education: Bringing it all together. In *OECD digital education outlook 2021: Pushing the frontiers with AI, blockchain, and robotics* (pp. 43–56). OECD Library.
- Castaneda, L., & Selwyn, N. (2018). More than tools? Making sense of the ongoing digitization of higher education. *International Journal of Educational Technology in Higher Education*, 15, 22.



- Du Boulay, B. (2000). Can we learn from ITSs. In *The international conference on intelligent tutoring systems* (pp. 9–17). Springer.
- Edionwe, N. (2024) Influence Of Artificial Intelligence On Academic Performance Of Business Education Postgraduate Students In Public Universities In South-South Nigeria. *International Journal of Humanities Social Science and Management (IJHSSM)* 4, (4), 724-732 retrieved from [www.ijhssm.org](http://www.ijhssm.org) on 16/09/2025
- Edtech. (2020). Successful AI examples in higher education that can inspire our future. *EdTech Magazine*. Available online: [https://edtechmagazine.com/higher/article/2020/01/successful-ai-examples-higher-education-can-inspire-our-future?utm\\_source=chatgpt.com](https://edtechmagazine.com/higher/article/2020/01/successful-ai-examples-higher-education-can-inspire-our-future?utm_source=chatgpt.com) (accessed on 29 Sept 2025).
- Essien, E.S., Adung, C.B., & Anam, N.G. (2024) Utilisation of Artificial Intelligent (AI) in Teaching and Learning in Higher Education for Global Best Practices. *East African Journal of Education, Humanities and Literature* .7 (3) 130-134
- Hennekeuser, D., Vaziri, D. D., Golchinfar, D., Schreiber, D., & Stevens, G. (2024). Enlarged education—Exploring the use of generative AI to support lecturing in higher education. *International Journal of Artificial Intelligence in Education*, 1–33.
- Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial intelligence in education: Promises and implications for teaching and learning*. Center for Curriculum Redesign. ISBN-13: 978-1-794-29370-0
- Hwang, G. J., Xie, H., Wah, B. W., & Gasevic, D. (2020). Vision, challenges, roles, and research issues of artificial intelligence in education. *Computers & Education: Artificial Intelligence*, 1, 100001.
- Johnson, A., & Smith, B. (2019). The impact of personalized learning on student attitudes and self-efficacy in mathematics. *Educational Technology Research and Development*, 38(2), 201–218.
- Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2016). *Intelligence unleashed: An argument for AI in education*. Pearson Education.
- Mallillin, L. L. D., Carag, E. A., Mallillin, J. B., & Laurel, R. D. (2020). Integration of knowledge through online classes in the learning enhancement of students. *European Journal of Open Education and E-Learning Studies*, 5(1). <https://doi.org/10.46827/ejoe.v5i1.3117>
- Millillin, L.L.D. (2024) Artificial Intelligence (AI) Towards Students' Academic Performance. *Innovare Journal of Education*. 12 (4) 16-21 DOI:<https://dx.doi.org/10.22159/ijoe.2024v12i4.51665>.
- Selwyn, N. (2016). *Is technology good for education?* Polity Press.

Vieriu, A. M., & Petrea, G. (2025). The Impact of Artificial Intelligence (AI) on Students' Academic Development. *Education Sciences*, 15(3), 343. <https://doi.org/10.3390/educsci15030343>

Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education—Where are the educators? *International Journal of Educational Technology in Higher Education*, 16(1), 39.