

ARTIFICIAL INTELLIGENCE APPLICATION AND TEST ANXIETY ON EFFECTIVE COUNSELLING DELIVERY IN SENIOR SECONDARY SCHOOLS IN EDO STATE, NIGERIA

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Abstract

This study examined the role of AI usage and test anxiety on effective counselling delivery in schools. Two objectives were stated to guide the focus of the study as survey design using a correlational approach was employed in the study. The population comprised of school counsellors and secondary school students. Through simple random sampling technique, a sample of 160 participants (150 students and 10 school counsellors) was selected from five senior secondary schools in Egor Local Government Area of Edo State. A self-structured instrument titled, Role of Artificial Intelligence (AI) usage and Test Anxiety on Effective Counselling Delivery Questionnaire (RAIUTAECDDQ) was used for data generation. The validated instrument by two counsellors in the department of Guidance and Counselling, Ambrose Ali University, Ekpoma, Edo State and was alluded to meet content validity. A Split-half reliability, yielded the following indexes $r = .805$ (AI usage), $.783$ (test anxiety) and $.799$ (Counselling delivery) respectively showing highly reliable. The data was analyzed using simple correlation analysis and hypothesis test at .05 level of significance. Finding reveals that AI usage and test anxiety showed positive correlation with effective counselling delivery. The authors concluded that integrating AI technologies into school counselling, alongside research-based strategies for managing test anxiety of students can enhance the effectiveness of counselling services and promote students' academic success, psychological well-being, and overall school adjustment. The authors recommended among others that more counselors should be exposed to hybridize counselling services with AI packages in schools.

Keywords: Artificial Intelligence, Counselling Effectiveness, School Counsellors, Students, Test Anxiety

Introduction

The field of education in Nigeria's has experienced tremendous growth and development in the course teaching and learning. This welcome development has been experienced by both teachers and students as innovative technology such as artificial intelligence (AI) has exposed stakeholders to another dimension of outcome that has never been experienced before. AI has emerged as one of the most transformative technologies of the twenty-first century, revolutionizing educational practices worldwide, including teaching, learning, assessment, administration, and counselling services. AI refers to computer systems capable of performing tasks that normally require human intelligence, like reasoning, problem solving, natural language processing, decision making, and predictive analytics (Russell & Norvig, 2021). Within the educational environment, AI-powered technologies such as intelligent tutoring systems, chatbots, predictive analytics, virtual assistants, and adaptive learning platforms have increasingly been integrated into education to enhance service delivery. In school counselling, AI is gradually becoming an innovative tool for improving counsellors' efficiency by facilitating students' needs

assessment, career guidance, mental health screening, record management, appointment scheduling and personalized counselling interventions. In Nigeria schools that experience shortages of qualified counsellors, increasing student populations and limited counselling resources, the advent of AI may offer significant opportunities for expanding the accessibility, responsiveness, and effectiveness of counselling services. The adoption of AI in school counselling aligns with the Federal Ministry of Education's (FME) commitment to digital transformation and technology-enhanced educational services (FME, 2022).

Effective counselling delivery remains a fundamental component of quality education because it addresses students' academic, vocational, psychological, emotional and social development. School counselling equips learners with the skills needed to make informed educational and career decisions, cope with personal challenges, improve interpersonal relationships, and achieve optimal academic performance. According to the Counselling Association of Nigeria CASSON, (2022) and Kumo and Hassan (2025), school counsellors are expected to provide preventive, developmental, and remedial services that promote students' holistic development. However, effective counselling delivery in many Nigerian schools has been constrained by inadequate professional personnel, insufficient counselling facilities, poor funding, limited technological integration, increasing students' psychosocial problems, and poor awareness of counselling services (Egbo, 2015). These challenges often reduce counsellors' capacity to provide individualized attention to students, thereby affecting the quality and effectiveness of counselling outcomes. AI-supported counselling platforms have therefore been proposed as complementary tools capable of improving counsellors' efficiency without replacing the indispensable human elements of empathy, ethical judgment, and emotional intelligence.

Policy makers have revealed that there is a growing consensus that the introduction of AI platforms is an indispensable resource that helps improve effective counselling delivery in contemporary educational situations. AI offers numerous advantages that can strengthen effective counselling delivery in schools. AI-based counselling systems can analyze large volumes of students' academic and behavioural data to identify learners at risk of academic failure, emotional distress, depression, or examination anxiety before such problems become severe. Intelligent chatbots can provide immediate responses to routine counselling inquiries, while machine learning algorithms can assist counsellors in developing individualized intervention plans based on students' unique psychological profiles (Anyamene et al., 2022; Al-shraifin et al., 2025). Furthermore, AI enhances data management by maintaining confidential counselling records, tracking students' progress, and generating solution-based reports for educational planning. In Nigerian schools, where counsellor-to-student ratios remain considerably below recommended standards, AI technologies could significantly reduce workload while increasing service accessibility. Nevertheless, concerns remain regarding data privacy, ethical considerations, digital literacy, infrastructural inadequacies, and unequal access to digital technologies, which may influence the successful implementation of AI-supported counselling services (National Information Technology Development Agency [NITDA], 2023).

Alongside technological innovations, students' psychological conditions, particularly test anxiety also continue to constitute major barriers to effective counselling outcomes in many schools. Test anxiety is a psychological state characterized by excessive worry, nervousness, fear, emotional tension, and physiological reactions experienced before or during examinations. Moderate levels of anxiety may motivate academic preparation; however, excessive anxiety impairs concentration, memory retrieval, reasoning, and decision-making, thereby reducing students' academic performance and psychological well-being. Nigerian secondary school

students frequently encounter high levels of test anxiety due to intense academic competition, parental expectations, high-stakes public examinations such as WAEC and NECO, inadequate study habits, peer pressure, and fear of failure. No doubt, students experiencing severe test anxiety often require professional counselling interventions to develop adaptive coping strategies, emotional regulation skills, and positive academic self-concepts. Where counselling services are ineffective or inaccessible, test anxiety may persist and negatively affect students' academic achievement and mental health.

The relationship between AI and test anxiety presents an emerging area of educational and counselling studies. AI-enabled counselling platforms may assist counsellors in identifying early symptoms of anxiety through behavioural analytics, online self-assessment tools, sentiment analysis, and predictive modelling. These technologies can facilitate timely intervention by recommending relaxation exercises, cognitive behavioural techniques, study plans, stress management strategies, and referral services where necessary. At the same time, excessive dependence on digital technologies or poorly designed AI systems may inadvertently increase students' anxiety through concerns about privacy, technological complexity, reduced human interaction or misinformation. Therefore, the effectiveness of AI-assisted counselling depends not only on technological capability but also on counsellors' professional competence, ethical practice, institutional readiness, and students' acceptance of digital counselling platforms. In Nigeria, empirical studies examining the combined influence of AI and test anxiety on effective counselling delivery remains under explored despite increasing policy emphasis on educational digitalization.

Statement of the Problem

It is worrisome that despite increasing recognition of school counseling services in secondary schools, there exist increasing reports of unwanted activities in schools, poor reading habit, rise in sexual activities, records of anxiety among students among others. As a measure to reduce further failure rate, test anxiety, and poor reading ability, counsellors are increasingly expected to integrate AI tools like intelligent assessment systems, chatbots, virtual career guidance platforms, and data analytics applications, to improve the quality, accessibility, and efficiency of counselling services. However, the extent to which school counsellors utilize AI in counselling practice remains uncertain, particularly in developing countries where inadequate digital infrastructure, limited AI competencies, and resistance to technological innovation may hinder effective adoption. At the same time, test anxiety among students continues to pose a significant challenge which often affects their emotional well-being, decision-making, academic performance, and willingness to seek counselling services. High levels of test anxiety may overwhelm school counselling units, thereby reducing the effectiveness of interventions if appropriate technological and psychological support mechanisms are not available. Although previous research by Adebayo and Adebisi (2023) have separately examined AI applications in education and the effects of test anxiety on students' academic outcome. However, there are limited studies on the role of AI and test anxiety on effective counselling delivery in schools, particularly within the Nigerian educational system. This lacuna makes it difficult for policymakers, school administrators, and professional counsellors to develop timely and solution-based strategies that integrate AI technologies while addressing students' psychological needs. It is upon this premise that this study seeks to examine the role of AI use and test anxiety on effective counselling delivery in senior secondary schools in Egor Local Government Area of Edo State.

Purpose of the study

The central objective of this study is to explore the role of AI usage and test anxiety on effective counselling delivery in senior secondary schools in Egor Local Government Area of Edo State, Nigeria. Specifically, it is out to:

1. assess the role of AI usage on effective counselling delivery in senior secondary schools in Egor Local Government Area of Edo State.
2. investigate the role of test anxiety on effective counselling delivery in senior secondary schools in Egor Local Government Area of Edo State.

Theoretical Framework

The study is hinged on Test Anxiety Theory (TAT) developed by an American psychologist, Charles Donald Spielberger in 1970. The central essence of the theory state that test anxiety is a temporary emotional reaction (state anxiety) triggered by examination situations and its intensity is duly influenced by an individual's enduring tendency to experience anxiety (trait anxiety). The theory explains that students who have high levels of trait anxiety are more likely to experience intense state of anxiety especially during examinations which can negatively affect their academic performance. While appropriate psychological interventions can alleviate these adverse effects, school counsellors serve as essential facilitators in helping students develop adaptive coping mechanisms that reduce cognitive worry and emotional tension associated with examinations. Given the increasing academic pressure experienced by students in secondary schools, strengthening counselling units through adequate staffing, continuous professional development, and the integration of problem-based anxiety management programmes would go a long way to improve effective counselling and foster positive educational outcomes.

Methods

The use of survey research design using a correlational approach was employed in this study. The population comprised of school counsellors and secondary school students. Through simple random sampling technique, a sample of 160 participants (150 students and 10 school counsellors) was selected from 5 senior secondary schools in Egor LGA, Benin City. A self-structured instrument titled, Role of AI usage and Test Anxiety on Effective Counselling Delivery Questionnaire (RAIUTAECDDQ) was used for data generation. The validated instrument by two experts in guidance and counseling and they alluded that the instrument meets content validity. A Split-half reliability, yielded the following indexes $r = .805$ (AI usage), $.783$ (test anxiety) and $.799$ (Counselling delivery) respectively showing highly reliable. The data was analyzed using simple correlation analysis and hypothesis test at .05 level of significance.

Results

Hypothesis 1: There is no significant relationship between AI usage and effective counselling delivery in senior secondary schools in Egor Local Government Area of Edo State.

Table 1

Pearson Product Moment Correlation Analysis showing Relationship between AI Usage and Effective Counselling Delivery in Senior Secondary Schools

Variable	N	M	SD	r	Sig	Decision
Use of artificial intelligence	1	1.62	.76	.88	.0	Reje
Effective counselling delivery	60	2.04	.89	3	16	ct H0 ₁
Total	160					

N= 160; X= 1.62 and 2.04; SD= .76 and .89; r= .883; Sig= .05

Table 1 reveals that 160 participants were involved in the study and a correlation coefficient of .883 was obtained which implies positively strong relationship. At $p < .016$, the null hypothesis is rejected and alternative retained implying that there is a significant relationship between AI usage and effective counselling delivery especially in senior secondary schools in Egor Local Government Area of Edo State.

Hypothesis 2: There is no significant relationship between the state of test anxiety and effective counselling delivery in senior secondary schools in Egor Local Government Area of Edo State.

Table 2

Pearson Product Moment Correlation Analysis showing Relationship between State of Test Anxiety and Effective Counselling Delivery in Senior Secondary Schools

Variable	N	M	SD	r	Sig	Decision
State of test anxiety	1	1.91	.54	.7	.0	Reje
Effective counselling delivery	60	2.04	.89	21	09	ct H0 ₂
Total	160					

N= 160; X= 1.91 and 2.04; SD= .54 and .89; r= .721; Sig= .05

Table 2 reveals that 160 participants were involved in the study and a correlation coefficient of .721 was obtained which implies positively strong relationship. At $p < .009$, the null hypothesis is rejected and alternative retained implying that there is a significant relationship between the state of test anxiety and effective counselling delivery in senior secondary schools in Egor Local Government Area of Edo State.

Discussion of Findings

From hypothesis 1, it reveals that there is a significant relationship between use of artificial intelligence and effective counselling delivery in schools. The finding that there is a significant relationship between the AI usage and effective counselling delivery in schools shows that AI technologies have become valuable tools for enhancing the quality, accessibility and efficiency of school counselling services. This therefore implies that as school counsellors increasingly adopt AI-powered applications such as intelligent chatbots, career guidance systems, predictive analytics and digital mental health platforms, they become better equip to identify students' emotional, behavioural and career-related needs on time and accurately. The use of AI also facilitates timely interventions through data-driven decision making, personalized guidance, and continuous monitoring of students' progress, thereby improving counselling outcomes. Unlike others other climes the integration of digital technologies into educational institutions have created opportunities for counsellors to leverage AI in providing more responsive and learner centred counselling services. The outcome of this study corroborates the study by Adebayo and Adebisi (2023) who maintained that the adoption of AI enhances professional efficiency as it supports counsellors in analyzing students' data, identifying possible risk learners, and delivering resource-based interventions. In a similar study, Ogunode and Musa

(2024) reported that AI applications improve educational service delivery as it helps increase the speed, accuracy and effectiveness of administrative and student-support functions in secondary schools.

Also, hypothesis 2 reveals that there is a significant relationship between the state of test anxiety and effective counselling delivery in senior secondary schools in the state. This implies that the level of test anxiety experienced by students is closely associated with the effectiveness of counselling services provided within the school environment. The result posits that in a situation where counsellors effectively identify, assess, and address students' test anxiety through appropriate counselling interventions like use of cognitive restructuring, relaxation techniques, study skills training, and emotional support, such students become better able to cope with examination-related stress and saddle with the ability to manage stressors. Effective counselling delivery helps contribute towards reduction of debilitating anxiety, thereby improving students' emotional well-being, and enhance academic confidence. However, inadequate counselling services may leave students vulnerable to heightened anxiety, poor concentration which may lead to reduced academic performance. The outcome of this study corroborates with that of Nwosu and Okeke (2022) who envisaged that effective school counselling programmes significantly reduces examination anxiety among senior secondary school students through systematic guidance interventions and cognitive behavioural counselling. This was also supported by Ogbodo and Alutu (2021) who found that students who regularly visit professional counsellors tend to exhibit lower levels of test anxiety and better academic adjustment than those without such support in secondary schools. Likewise, Akinade and Sulaiman (2020) observed that counselling interventions that focuses on stress management and examination preparedness enhanced students' confidence and reduced anxiety symptoms among secondary school students. These scholars collectively affirmed that counselling services play a critical role in mitigating test anxiety and promotes students' academic success.

Conclusion and Recommendations

From the findings of this study, the researchers concluded that AI usage and the state of test anxiety among students when researched showed positive strong correlation with effective counselling delivery in schools. It also concluded that integrating AI technologies into school counselling, alongside research-based strategies for managing test anxiety of students would enhance the effectiveness of counselling services and promote students' academic success, psychological well-being, and overall school adjustment. Moreover, counselling interventions that focuses on stress management and examination preparedness enhanced students' confidence and reduced anxiety symptoms among secondary school students.

From the conclusion made in the study, it made the following recommendations:

1. More counsellors should be expose on how to hybridize counselling services with use of AI packages in schools.
2. Counsellors should endeavor to identify a better identification psychological scale that can identify conditions of test anxiety prevalent among students.
3. Students should be conditioned to visit the school counselling unit every forth night in a term in other to help mitigate any probabilistic student related challenges.

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