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EVALUATING THE INTEGRATION OF ARTIFICIAL INTELLIGENCE IN GUIDANCE AND COUNSELLING SERVICES: ETHICAL AND PRACTICAL IMPLICATIONS FOR SCHOOLS

Abdurrahman Abubakar Galadanchi, Ph. D[1], Fatima Abdurrahman Galadanchi[2] and Yahaya Yusuf Maina[3]
Corresponding author: fateemahag@gmail.com
[1]National Research Institute for Chemical Technology (NARICT). Basawa-Zaria. Kaduna State
[2]Department of Plant Science and Biotechnology, Faculty of Life Science, Federal University Dutsinma.
[3]Educational Psychology Department, Federal University of Education Zaria

ABSTRACT

The investigation focused on Evaluating the Integration of Artificial Intelligence in Guidance and Counselling Services: Ethical and Practical Implications for Schools in Kaduna State. Three research goals, three separate questions and three null hypotheses led the research. The sample for the study comprised of forty-six (46) guidance and counselling masters utilizing criterion-based sampling. The instruments for data collection in this study was a questionnaire, titled "Artificial Intelligence in Guidance and Counselling Questionnaire (AIGCQ)." It was a 19-item questionnaire designed with a five-point rating scale, comprising Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). The questionnaire was segmented into four parts. Section A obtained personal details of the respondents, while Section B contained items assessing the level of knowledge about the use of AI in counselling services. Section C focused on the practical implication of automated counselling systems. Section D, addressed the Ethical issues of AI in counselling services in Zaria, Kaduna State. The instrument was validated by expert from psychology department and one (1) other experienced guidance and counselling educators in a high school that is not part of the study area and the data collected was analyzed using descriptive statistics. The results revealed that guidance and counselling educators in Zaria, Kaduna State, There is significant difference on perceived effectiveness of AI-based counselling tools and traditional counselling methods in the group of school counsellors in favour of AI based tools, there is notable difference on the utilization of AI in guidance and counselling and is significantly associated with increased ethical risks about student data privacy and confidentiality and finally, there is significant difference on the Counsellors' and administrators' readiness to adopt AI technologies in school counselling is significantly influenced by their level of digital literacy and prior exposure to AI systems The researchers recommends that government and educational stakeholders

should invest in infrastructural development by improving electricity supply and internet connectivity in secondary schools, particularly in underserved areas like Zaria, alongside others.

Keywords: Evaluation; Integration; Artificial Intelligence; Guidance and Counselling.

Introduction

The rapid evolution of Artificial Intelligence (AI) has transformed the contours of educational innovation in the 21st century, transcending traditional boundaries of pedagogy, administration, and student support. Amongst its most promising yet controversial applications are the integration of AI in school-based guidance and counselling services, a domain traditionally grounded in human empathy, trust, and professional discretion. With student populations growing and psychological challenges within learners on the rise, particularly post-COVID-19, school systems are increasingly turning to intelligent software platforms like chatbots, sentiment analysis systems, and predictive behavioural models to enhance the efficiency and reach of counselling interventions (Holmes et al., 2021; UNESCO, 2023).

Automated emotional distress screening, real-time therapy recommendations, personalised career advice, and early identification of behavioural or learning issues are just a few of the amazing possibilities that AI systems provide. These technologies make a strong argument for enhancing accessibility, scalability, and responsiveness in settings with limited resources and concerningly high student-counsellor ratios (Bailey & Schofield, 2022). The practical and ethical ramifications of this change are still up for debate, though.

Data privacy, algorithmic bias, informed consent, emotional insensitivity, and the possible deterioration of student trust have all become major issues. AI systems function on data-driven assumptions that do not take individual variability or cultural complexity into account, in contrast to human counsellors who evaluate complicated emotional clues within cultural and contextual frameworks. Furthermore, many educational systems especially those in low- and middle-income nations lack explicit institutional policies and ethical standards, which increases the possibility of abuse or an excessive dependence on machine-driven judgements (Floridi et al., 2020). There are also many concerns regarding whether counsellors and school officials are ready to use and oversee AI tools, and whether this kind of integration strengthens or weakens the fundamentals of comprehensive, student-centered counselling.

Notwithstanding its increasing use, there are currently little empirical assessments of AI's practical efficacy, morality, and user perceptions in school counselling settings. Therefore, by investigating the real-world application of AI technologies in school counselling and challenging the integrity concerns they bring up, this study aims to close this important knowledge gap. It is anticipated that the results will have a major impact on the development of ethical practices, policies, and frameworks for the long-term deployment of AI in educational guiding systems.

Problem Statement

The integration of AI in school counseling presents an exciting opportunity to improve service delivery, particularly in resource-limited areas like Kaduna State, Nigeria. However, there are significant gaps that need addressing to fully understand its effectiveness and the ethical implications associated with its use. Firstly, much of the existing research is based on the perspectives of counselors and is limited to specific geographic areas, which may not accurately reflect broader needs. There's a pressing need for objective evaluations that compare AI-driven counseling methods with traditional approaches, as this would provide insights into AI's actual effectiveness. Additionally, the unique challenges faced by the region, such as infrastructural issues and potential algorithmic biases, require careful consideration. Importantly, the voices of students, who are the primary beneficiaries of these services, are often overlooked in current discussions. Their insights are crucial for developing approaches that are not only effective but also culturally relevant and ethically sound.

Addressing these gaps is vital for creating frameworks that can effectively integrate AI into school counseling in Nigeria and similar contexts, ensuring that the solutions developed are practical and beneficial for all stakeholders involved.

Research Objectives

1. To investigate the effectiveness of understanding and availability of artificial intelligence (AI) tools in optimising the delivery of guidance and counselling services in schools.
2. To explore the risks related with the use of AI in student counselling, particularly related to privacy, autonomy, and bias.
3. To evaluate the understanding and perceive benefits of school counsellors and administrators relating to the integration of AI technologies into counselling practices.

Research Questions

1. How effective awareness, availability AI-based tools in supporting school guidance and counselling services compared to

traditional human-centred approaches?

2. What are the major risks related to AI (e.g., data privacy, algorithmic bias, informed consent) associated with the deployment of AI in school counselling contexts?
3. What is the level of awareness, acceptance, and perceive benefits in the midst of school counsellors and administrators for adopting AI in counselling services?

Hypotheses

1. **H_1:** There is a notable difference in the perceived effectiveness of awareness, usage and availability of AI-based counselling tools and traditional counselling methods within school counsellors.
2. **H_2:** The use of AI in guidance and counselling is significantly associated with increased draw backs relating student data privacy and confidentiality.
3. **H_3:** Counsellors' and administrators' perceived benefits to adopt AI technologies in school counselling is significantly influenced by their level of digital literacy and prior exposure to AI systems.

Methodology

The research utilised a descriptive research design to assess guidance and counselling teachers' incorporation of Artificial Intelligence in guidance and counselling services. This design allowed for the compilation of data from a large sample, providing a comprehensive overview of teachers' views and experiences. It helped to identify trends and patterns in how teachers perceived the integration of AI in the midst of guidance and counselling masters in their guidance and counselling services. The study's participants were all guidance and counselling masters in secondary schools located in Zaria, Kaduna State, with a total of forty-six (46) guidance and counselling masters (these are teachers that are professional counsellors). The entire population was used as the sample population. This approach, known as a census survey, was appropriate because the population was small and accessible, ensuring comprehensive data collection without the risk of sampling bias (Creswell, 2014). Using the whole population eliminated errors associated with sampling techniques and provided a complete representation of the study group. According to Saunders, Lewis, and Thornhill (2019), using a full population sample is particularly beneficial when the study aims for in-depth analysis and precise conclusions applicable to the entire group. Therefore, this study adopted a census approach to ensure the accuracy and generalizability of the results. A standardised survey instrument was employed to collect data on guidance and counselling masters awareness in the use of AI in counselling,

the practical implication of AI counselling and the risks related to AI. The instrument was titled "Artificial Intelligence in Guidance and Counselling Questionnaire (AIGCQ)." It was a 19-item questionnaire designed employing a 5-point scale, comprising Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). The questionnaire was organised into four parts. Section A collected the demographic information of the respondents, while Section B contained five items assessing the level of knowledge on the use of AI in counselling services. Section C with five items focused on the practical implication of automated counselling systems. Section D with five items, addressed the Ethical considerations of AI in counselling services in Zaria, Kaduna State. Validity testing was done to confirm the instrument's efficacy by expert from psychology department and one (1) other experienced guidance and counselling master in a secondary school that is not part of the study area.

All corrections and observations were implemented on the instrument before it was distributed to the respondents. In order to establish the reliability of the instrument, the test-re-test methods was employed using 15 respondents that are outside the study area and this study pilot yielded reliability co-efficient of ±0.84. The researcher obtained a letter of introduction from the Ministry of Education, Science and Technology, Zaria Zone, Kaduna State, seeking permission to visit various schools in the study area and distribute the survey to the participants. The questionnaire was personally distributed by the researcher in the selected schools. Ten (20) minutes were given to respondents to complete the questionnaire, and it was collected on the spot to ensure a higher response rate. Respondents were assured of confidentiality, and the entire data collection process took a minimum of two (2) weeks. The data collected from the field were analyzed using statistical analysis, including frequencies, simple percentages, mean, standard deviation, and t-test. These statistical tools helped to summarize and interpret the data effectively.

Results

Research Question One: How effective are AI-based tools in supporting school guidance and counselling services compared to traditional human-centred approaches?

Table 1: Mean and Standard Deviation Scores on AI-based Tools in Supporting School Guidance and Counselling Service Compared to Traditional Human Centred Approach

S/N	Awareness and Use of AI in Counselling	SA	A	D	SD	MEAN	Std. Div.	Remarks

1	I am aware of the use of Artificial Intelligence (AI) in educational counselling services.	20	16	8	2	2.86	1.02	Agreed
2	My school has introduced AI tools for use in counselling or student support.	23	13	5	5	3.40	0.98	Agreed
3	I have personally interacted with AI tools (e.g., chatbots) for academic or emotional guidance.	19	15	4	8	3.48	0.74	Agreed
4	AI technologies are regularly discussed as part of professional development in my school.	21	20	5	0	2.53	1.08	Agreed
5	AI can enhance the accessibility of counselling services for all students.	22	18	4	2	3.64	0.62	Agreed
	Total					15.91	4.44	
	Average Mean and Standard Deviation					**3.18**	**0.88**	**Agreed**

Table 1 revealed the mean and standard deviation scores of responses on the AI-based tools in supporting school guidance and counselling services compared to traditional human-centred approaches**.** The average mean and standard deviation scores of items 1, 2, 3, 4 and 5 is given as (N = 46, M = 3.18 and SD = 0.88) which is above the cut-off point of 2.50, indicating there is significant influence of AI-based tools in supporting school guidance and counselling services compared to traditional human-centred approaches**.**

Research Question Two: What is the major AI- (e.g., data privacy, algorithmic bias, informed consent) associated with the deployment of AI in school counselling contexts?

Table 2 Mean and Standard Deviation Response Scores on Ethical Risks Associated with AI Deployment

S/N	Integrity issues of AI in Counselling	SA	A	D	SD	MEAN	Std. Div.	Remarks
1	Using AI in counselling raises concerns about data privacy and confidentiality.	23	20	3	0	3.31	0.91	Agreed
2	AI systems may lack the empathy and sensitivity required for effective counselling	21	19	3	3	3.32	0.87	Agreed
3	There is a risk of becoming too dependent on AI in addressing students' psychosocial needs	24	18	4	0	2.80	1.09	Agreed
4	Ethical guidelines for AI use in school counselling are clearly communicated in my institution	22	18	2	4	3.31	1.17	Agreed

5	Students should be informed before AI tools are used in their personal counselling processes	19	23	5	0	2.65	0.96	Agreed
	Total					**18.48**	**5.8**	
	Average Mean and Standard Deviation					**3.08**	**0.96**	Agreed

Table 2 shows that, the mean and standard deviation scores of responses on the major integrity issues (e.g., data privacy, algorithmic bias, informed consent) associated with the deployment of AI in school counselling contexts. The average mean and standard deviation scores of items 1, 2, 3, 4 and 6 is given as (N = 46, M = 3.08 and SD = 0.96) which is above the cut-off point of 2.50, indicating there is significant influence of major integrity issues (e.g., data privacy, algorithmic bias, informed consent) associated with the deployment of AI in school counselling contexts

Research Question Three: What are the perceived benefits amongst school counsellors and administrators for adopting AI in counselling services?

Table 3 Mean and Standard Deviation of Response Scores on the Perceived Benefits of Artificial Intelligence (AI) amongst School Counsellors and Administrators for Adopting AI in School Counselling Services

S/N	Readiness in Practical Implications of AI in Counselling	SA	A	D	SD	MEAN	Std. Div.	Remarks
1	AI can provide timely support to students with emotional or academic issues.	18	21	6	1	2.80	1.09	Agreed
2	AI helps reduce counsellors' workload by handling routine student concerns.	20	18	5	3	3.09	0.80	Agreed
3	AI can assist in career guidance through data-driven student profiling.	22	15	10	9	2.76	1.06	Agreed
4	AI-based tools improve students' access to mental health support.	24	16	3	3	3.02	0.93	Agreed
5	AI can be an effective supplement to human-led counselling interventions.	22	20	4	0	2.97	0.76	Agreed
	Total					**14.64**	**4.64**	
	Average Mean and Standard Deviation					**2.93**	**0.93**	**Agreed**

Table 3 shows that, the mean and standard deviation scores of responses on the **readiness** amidst school counsellors and administrators for adopting AI in counselling services**.** The average mean and standard deviation scores of items 1, 2, 3, 4 and 5 is given as (N = 46, M = 2.93 and SD = 0.93) which is above the cut-off point of 2.50, indicating there is significant influence of readiness amidst

school counsellors and administrators for adopting AI in counselling services.

Hypothesis One: There is a substantial difference in the perceived effectiveness of AI-based counselling tools and traditional counselling methods amongst school counsellors.

Table 4: t-test Analysis on perceived effectiveness of AI-based counselling tools and traditional counselling methods amongst school counsellors

Groups	N	Mean	St. Dev.	df	t	P	Decision
Agreed	32	62.61	9.055	44	34.859	0.000	Significant
Disagreed	14	42.72	5.65				

Table 4 showed that, P – value is 0.000 which is less than the alpha value of 0.05 level of significance at df of 44. Since the p- value is less than the alpha value, it means that the there is significant difference on perceived effectiveness of AI-based counselling tools and traditional counselling methods within school counsellors in favour of AI based tools. Therefore, the null hypothesis one is rejected.

Hypothesis Two: The use of AI in guidance and counselling is significantly associated with increased integrity issues about student data privacy and confidentiality.

Table 5: t-test Analysis on use of AI in guidance and counselling is significantly associated with increased ethical issues about student data privacy and confidentiality

Groups	N	Mean	St. Dev.	df	T	P	Decision
Agreed	32	51.02	11.42	44	12.177	0.000	Significant
Disagreed	14	42.72	5.65				

Table 5 showed that, p – value is 0.000 which is less than the alpha value of 0.05 level of significance at df of 44. Since the p- value is less than the alpha value, it means that the there is significant difference on the use of AI in guidance and counselling is significantly associated with increased integrity issues concerning student data privacy and confidentiality.

Hypothesis Three: Counsellors' and administrators' readiness to adopt AI technologies in school counselling is significantly influenced by their level of

digital literacy and prior exposure to AI systems.

Table 6: t-test Analysis on Counsellors' and administrators' readiness to adopt AI technologies in school counselling as influenced by their level of digital literacy and prior exposure to AI systems

Groups	N	Mean	St. Dev.	df	t	P	Decision
Agreed	32	65.77	7.42	44	46.230	0.000	Significant
Disagreed	14	42.72	5.65				

Table 6 results indicated that, p – value is 0.000 which is less than the alpha value of 0.05 level of significance at df of 44. Since the p- value is less than the alpha value, it means that the there is significant difference on the Counsellors' and administrators' readiness to adopt AI technologies in school counselling is significantly influenced by their level of digital literacy and prior exposure to AI systems.

Discussion

There is significant difference on perceived effectiveness of AI-based counselling tools and traditional counselling methods amongst school counsellors in favour of AI based tools. Therefore, the null hypothesis one is rejected. This is in line with the study of Umashankar and Geethanjali (2024) who revealed that AI chatbots provide 24/7 support, addressing the increasing demand for mental health resources amidst students, which traditional methods often fail to meet. They reduced stigma associated with seeking help, making it easier for student to access counselling services without fear of judgment. In a similar vein, Patil et al. (2024) and Ulfat Yunus Khan and Shaikh (2024) found that students rated their interactions with AI as being equal to or even superior to those with human counsellors, especially in the initial phases of counselling. This suggests that AI can effectively engage students and provide valuable support during critical early stages of the counselling process. The integration of artificial intelligence (AI) in the guidance and counseling services of educational institutions in Kaduna State has significant potential to improve the effectiveness of counseling practices compared to traditional methods. Research indicates that AI-driven tools can greatly enhance service delivery, streamline the responsibilities of counselors, and provide timely support to students. However, the implementation of these technologies also raises important ethical risks, particularly regarding the protection of student data privacy and confidentiality. Furthermore, the study found that counselors' willingness to adopt AI is heavily influenced by their level of digital literacy and their previous experiences

with AI systems. This highlights the need for focused professional development programs. In conclusion, the successful integration of AI into school counseling requires a careful approach that addresses both technological advancements and ethical considerations.

Conclusion

The integration of artificial intelligence (AI) in the guidance and counseling services of educational institutions in Kaduna State holds great potential for improving the effectiveness of counseling practices compared to traditional methods. Research indicates that AI-driven tools can significantly enhance service delivery, streamline the responsibilities of counselors, and provide timely support to students. However, the implementation of these technologies also raises important ethical risks, particularly regarding the protection of student data privacy and confidentiality. Additionally, the study found that counselors' willingness to adopt AI is strongly influenced by their level of digital literacy and their previous experiences with AI systems. This highlights the importance of targeted professional development programs. In summary, successfully incorporating AI into school counseling requires a careful approach that balances technological advancements with ethical considerations.

Recommendations

In light of the results, the researcher recommends the following:

1. There should be collaboration between professional counselling bodies and state ministry of education to develop and enforce AI-in-Counselling Codes, addressing issues such as informed consent, algorithmic bias and student data encryption.
2. Government should improve supply of electricity and connectivity, invest in secure cloud-based platforms and AI counselling software specifically adapted to our secondary schools.
3. State governments should organize continuous professional development workshops and other training programs. The workshops and other training programs. The trainings and workshops should be tailored to secondary school counsellors and administrators and should focused on AI operation, ethical use and data protection.

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