

COUNSELLORS' PERCEPTION OF DIGITAL COUNSELLING TOOLS FOR ENHANCING GUIDANCE SERVICES IN SMART LEARNING ENVIRONMENTS

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Abstract

The rapid integration of digital technologies in higher education has transformed how academic and support services are conceived and delivered, and guidance and counselling services are not exempt from this shift. Anchored on the Technology Acceptance Model, this study examined university counsellors' perception of digital counselling tools, specifically video-conferencing tools, AI-assisted counselling platforms, and learning management systems (LMS), for enhancing guidance services in smart learning environments in Enugu State, Nigeria. A descriptive survey design was adopted, and total population sampling was used to draw all 87 counsellors in the six universities in the state, of whom 82 provided usable responses. Data were collected using the Counsellors' Perception of Digital Counselling Tools Questionnaire (CPDCTQ), a 24-item instrument with a reliability coefficient of 0.83, and analysed using mean and standard deviation against a criterion mean of 2.50. Findings showed that counsellors perceived video-conferencing tools most positively, followed by learning management systems, while AI-assisted platforms attracted moderate but cautious positivity, with the greatest variability recorded on items concerning empathy and trust in AI-generated recommendations. These results suggest that counsellors are professionally receptive to digital tools that extend the reach of guidance services but remain guarded about tools that touch the relational core of counselling practice. The findings have practical significance for university managements and counsellor training bodies: they indicate that investment in digital counselling infrastructure is likely to meet a receptive professional workforce, provided that adoption is accompanied by structured training and clear ethical guidelines, particularly for AI-assisted tools. It was recommended that university administrations invest in reliable digital infrastructure, provide structured training for counsellors, and develop institutional policies for integrating counselling services into existing LMS platforms.

Keywords: AI-assisted platforms, digital counselling tools, guidance services, management systems

Introduction

The transformation of higher education by digital technologies has been one of the defining developments of the twenty-first century. Universities are increasingly complex digital environments where instruction, administration, assessment, and student support are mediated through technology platforms. Guidance and counselling services occupy a distinctive position within this transformation: counselling is a deeply relational and humanistic practice that depends on trust, empathy, and the quality of the interpersonal encounter, yet rising student mental health needs, high student-to-counsellor ratios, and the expanded expectations of student support create pressure to adopt digital tools that extend the reach and efficiency of counselling practice. Understanding how counsellors themselves perceive these tools is therefore a question of practical and professional urgency, since perception is a well-documented precursor to actual technology adoption in professional practice.

Smart learning environments refer to technology-enhanced educational settings that integrate digital infrastructure, adaptive systems, and data-driven tools to improve the

quality and responsiveness of educational services. George and Chukwuka (2023) observed that smart learning systems in Nigerian tertiary institutions remain at an early stage of development but hold substantial potential for improving educational processes, including student support. Within such environments, counsellors are expected to reach students across multiple digital channels, schedule appointments automatically, and use data to identify students who may need proactive support, expectations that place new demands on counsellors' skills, attitudes, and institutional conditions.

Evidence on counsellors' perception of video-conferencing tools is mixed, and the pattern that emerges across studies suggests that perception is shaped less by attitude in the abstract than by the concrete technological and institutional conditions in which counsellors work. Guler and Ceyhan (2023) found that university counsellors who shifted to video-based platforms during the COVID-19 pandemic developed generally positive perceptions regarding convenience and accessibility, though they remained concerned about the therapeutic relationship and the handling of sensitive disclosures at a distance. By contrast, Phiri, Mulalelo, and Mwanza (2024) found that online counselling in Zambia was perceived as ineffective by both clients and therapists where internet connectivity was poor, data costs were high, and digital literacy was low. Read together, these findings indicate that video-conferencing tools do not carry a fixed valence for counsellors; rather, favourable perception appears to depend on whether the surrounding infrastructure is adequate to sustain the relational demands of counselling practice, a distinction directly relevant to the Nigerian university context examined in this study.

Perception of AI-assisted counselling platforms, which include automated chatbots, digital psychometric assessment systems, and automated scheduling tools, appears more consistently cautious across the available literature, though for reasons that are professional and ethical rather than merely technological. Agbana, Ezenwosu, and Okonkwo (2024) found that awareness of AI tools among Nigerian counsellors was moderate while actual application remained limited, with gender and professional rank shaping attitudes toward adoption. This caution is reinforced by evidence that AI anxiety, the discomfort individuals experience in response to AI tools, is a measurable phenomenon among Nigerian professionals shaped by organisational and individual psychological characteristics (Kenku & Uzoigwe, 2024), and by user-level evidence that Nigerians using AI-integrated psychotherapy applications raised specific concerns about data privacy, the accuracy of AI responses, and the cultural appropriateness of machine-generated emotional advice (Agwaonye, Abdelnour-Nocera, Azarmehr, & Peters, 2024). Taken together, these studies suggest that counsellors' caution about AI tools is not technophobia but a defensible professional response grounded in the ethical demands of a profession that prioritises client welfare, confidentiality, and informed consent, demands that current AI systems have not fully resolved. At the same time, evidence that well-designed automated systems can perform useful triage and support functions in Nigerian institutions (Ndunagu, Ezeanya, Onuorah, Onyeakazi, & Ukwandu, 2025) suggests that counsellors' caution may be selective, extending to the relational core of counselling while permitting acceptance of AI for narrower logistical functions.

Learning management systems such as Moodle, Blackboard, and Google Classroom are widely deployed in Nigerian universities to support academic delivery, yet they are rarely used to connect academic infrastructure to student wellbeing and counselling support. Ochieng, Akello, and Abdi (2024), in a systematic review of student support services across sub-Saharan African higher education, found that counselling and psychosocial services remained largely disconnected from LMS infrastructure despite repeated policy commitments to integrate student support into digital academic

environments, a policy expectation that is echoed in Nigeria's National Policy on Education, which envisions guidance and counselling as an integral component of the educational process (Federal Republic of Nigeria, 2019). This disconnection represents a missed opportunity, since embedding counselling resources within platforms that students already use daily should, in principle, increase the accessibility of guidance services. Evidence that automated and LMS-integrated tools can perform genuinely useful functions when adequately designed, whether for programme selection support (Ukaigwe, Salihu, Ezeanya, Okunade, & Irabor, 2025) or for improving student engagement more broadly (Ezeanya, Ukaigwe, Ogbaga, & Kwanashie, 2024), suggests that the barrier to LMS-based counselling integration in Nigerian universities is institutional rather than technical.

In Enugu State, six universities, the University of Nigeria Nsukka, Enugu State University of Science and Technology, Coal City University, Godfrey Okoye University, Renaissance University, and Caritas University, operate guidance and counselling services for a combined student population of several hundred thousand, yet these institutions vary considerably in size, funding, and digital infrastructure. This study is anchored on the Technology Acceptance Model (TAM), proposed by Davis (1989), which holds that an individual's intention to use a technology is shaped primarily by perceived usefulness and perceived ease of use, a model that Kolade, Adeyemi, and Bello (2025) confirmed among Nigerian university lecturers, where institutional support moderated the relationship between perception and adoption. Applied to counsellors, TAM suggests that a counsellor who perceives video-conferencing as useful and easy to operate will adopt it, while one who perceives AI tools as complex or professionally inappropriate will resist them regardless of institutional encouragement, a proposition this study allows to be examined empirically for the first time in a Nigerian university counselling context. Despite a growing international literature on e-counselling, including evidence from Malaysia that e-counselling competence shapes counsellors' professional self-efficacy (Zainudin, Rong, Asri, Yusop, Ahmad, & Hassan, 2022), no equivalent study has examined how university counsellors in Nigeria, and in Enugu State specifically, perceive the digital tools available to them. Without this understanding, universities cannot make evidence-based decisions about technology investment, training design, or service improvement. This study was therefore designed to close this gap.

Purpose of the Study

Specifically, the study sought to:

1. determine university counsellors' perception of video-conferencing tools for enhancing guidance services in smart learning environments in Enugu State;
2. determine university counsellors' perception of AI-assisted counselling platforms for enhancing guidance services in smart learning environments in Enugu State; and
3. determine university counsellors' perception of learning management systems for enhancing guidance services in smart learning environments in Enugu State.

Research Questions

The following research questions guided the study:

1. What is the perception of university counsellors of video-conferencing tools for enhancing guidance services in smart learning environments in Enugu State?
2. What is the perception of university counsellors of AI-assisted counselling platforms for enhancing guidance services in smart learning environments in Enugu State?

3. What is the perception of university counsellors of learning management systems for enhancing guidance services in smart learning environments in Enugu State?

Methods

This study adopted a descriptive survey research design. The design was appropriate because the study sought to describe counsellors' perceptions of digital counselling tools as they exist, without manipulating any variable, and descriptive survey designs are well suited for capturing the attitudes, opinions, and perceptions of respondents across a defined population at a specific point in time (Creswell, 2014). A perception study was preferred over alternative designs, such as an experimental or quasi-experimental design, because there is presently no institutionalised digital counselling programme in Enugu State universities whose outcomes could be manipulated or compared; establishing a credible baseline of counsellors' perceptions is therefore a necessary precondition for any future intervention or adoption study. The design nonetheless carries limitations that should be acknowledged. Descriptive survey data rely on self-report, which is susceptible to social desirability bias, particularly where respondents may wish to present themselves as professionally receptive to innovation. The cross-sectional nature of the design also means that the findings represent counsellors' perceptions at a single point in time and cannot establish how these perceptions change with sustained exposure to digital tools, nor can they establish causal relationships between perception and actual usage behaviour.

The population comprised all 87 counsellors working in the six universities in Enugu State: the University of Nigeria Nsukka, Enugu State University of Science and Technology, Coal City University, Godfrey Okoye University, Renaissance University, and Caritas University. The counsellors included those serving in students' counselling units, career development centres, and student affairs offices across these institutions. Total population sampling was used because the population was small, clearly defined, and accessible. All 87 counsellors were targeted to maximise accuracy and eliminate sampling error. Of the 87 copies distributed, 82 were retrieved and found usable, a return rate of 94.3%. The five uncollected responses were attributable to three counsellors who were on approved leave during the data collection period and two counsellors whose questionnaires were returned substantially incomplete and were therefore excluded. Given that the non-returns were due to administrative unavailability rather than a systematic pattern related to attitudes toward digital tools, the risk that non-response introduced meaningful bias into the findings is considered low; nonetheless, the possibility that counsellors who were away from their duty stations differ in some unobserved way from those who participated cannot be entirely ruled out, and this is acknowledged as a limitation of the study. Data were collected using the Counsellors' Perception of Digital Counselling Tools Questionnaire (CPDCTQ), a researcher-developed instrument. Section A solicited demographic information including gender, age range, highest educational qualification, years of counselling experience, and current university of service. Section B contained 24 items structured into three clusters of eight items each: Cluster I on video-conferencing tools, Cluster II on AI-assisted counselling platforms, and Cluster III on learning management systems. This three-cluster structure was derived directly from the three categories of digital counselling tools identified in the reviewed literature as most relevant to guidance service delivery in smart learning environments, and each cluster was constructed to capture both the functional usefulness and the professional or ethical concerns associated with its respective tool category, consistent with the perceived usefulness dimension of the Technology Acceptance Model underpinning the study. Items

were rated on a 4-point scale: Strongly Agree (4), Agree (3), Disagree (2), and Strongly Disagree (1). To control for response bias, each cluster contained two negatively worded reverse-coded items: items 5 and 8 in Cluster I, items 13 and 16 in Cluster II, and items 20 and 24 in Cluster III. Responses to these items were reversed before analysis so that high scores consistently reflected positive perception. Sample items from each cluster are presented in Appendix I.

The CPDCTQ was subjected to face and content validation by three experts, one in Guidance and Counselling, one in Educational Technology, and one in Measurement and Evaluation, all from the University of Nigeria, Nsukka. Each expert independently rated every item on a structured validation form against three criteria: clarity of wording, relevance of the item to the cluster it was intended to measure, and adequacy of the item in covering the construct represented by that cluster. Items that any expert rated as unclear or of doubtful relevance were revised or replaced, and only items on which all three experts agreed satisfied the three criteria were retained in the final instrument. This process yielded content validation in addition to face validation. The experts' recommendations, which included rewording two ambiguous items and redistributing one item that had been misclassified between clusters, were incorporated into the revised instrument before it was administered. Reliability was established using Cronbach's Alpha internal consistency method. A trial test was conducted with 30 university counsellors from Imo State who shared characteristics with the study population but were outside the main sample. The analysis yielded a Cronbach's Alpha of 0.83, exceeding the 0.70 threshold recommended by Nunnally (1978), confirming the instrument's reliability.

After obtaining ethical clearance and administrative permission from each university, trained research assistants administered the CPDCTQ to all 87 counsellors across the six universities. Of the 87 copies distributed, 82 were retrieved and found usable, giving a return rate of 94.3%. Data were analysed using mean and standard deviation. Before analysis, responses to reverse-coded items (items 5, 8, 13, 16, 20, and 24) were reversed using the formula: Reversed score = (Maximum scale value + 1) minus the Original score. For the 4-point scale, this converts a response of 4 to 1, 3 to 2, 2 to 3, and 1 to 4. A criterion mean of 2.50 was used as the decision benchmark: a mean of 2.50 and above indicated positive perception, while a mean below 2.50 indicated negative perception. Standard deviation measured variability in responses. The analysis was restricted to descriptive statistics because the research questions guiding the study were themselves descriptive, asking what counsellors' perceptions were rather than whether these perceptions differed systematically across demographic subgroups. This choice constrains the depth of the findings, and the possibility that perception varies by gender, years of experience, or university type is acknowledged as an important question left for future research.

Results

Research Question 1: What is the perception of university counsellors of video-conferencing tools for enhancing guidance services in smart learning environments in Enugu State?

Table 1: Mean and Standard Deviation of Responses on Video-Conferencing Tools (n = 82)

S/N	Item	Mean	SD	Decision
1	Video-conferencing tools make it easier to reach students who cannot come for in-person sessions	3.31	0.67	Positive
2	Using Zoom or Google Meet helps me conduct	3.24	0.71	Positive

S/N	Item	Mean	SD	Decision
3	structured counselling sessions effectively	3.19	0.74	Positive
4	Video-conferencing allows me to schedule sessions more flexibly for both counsellors and students	3.10	0.78	Positive
5 (R)	Online video sessions reduce the stigma students associate with visiting a counsellor's office	2.86	0.83	Positive
6	I find it difficult to establish a genuine counselling relationship through video platforms	3.05	0.79	Positive
7	Video-conferencing tools are useful for group counselling and psychoeducational sessions	2.98	0.81	Positive
8 (R)	Video-based counselling helps me document and follow up on sessions more conveniently	2.78	0.87	Positive
	Video sessions are not appropriate for handling sensitive personal issues with students			
	Cluster Mean	3.06	0.78	Positive

*(R) denotes a reverse-coded item. Scores were reversed before analysis so that high scores consistently reflect positive perception.

Table 1 shows that all eight items exceeded the 2.50 criterion benchmark, with item means ranging from 2.78 to 3.31 and a cluster mean of 3.06 (SD = 0.78), indicating that counsellors hold a positive perception of video-conferencing tools. The comparatively higher standard deviations on the reverse-coded items 5 and 8 point to genuine professional disagreement over whether video platforms can sustain authentic relational engagement and handle sensitive personal issues, even as the overall pattern remains positive.

Research Question 2: What is the perception of university counsellors of AI-assisted counselling platforms for enhancing guidance services in smart learning environments in Enugu State?

Table 2: Mean and Standard Deviation of Responses on AI-Assisted Counselling Platforms (n = 82)

S/N	Item	Mean	SD	Decision
9	AI chatbots can provide initial psychoeducational support to students before they see a counsellor	2.91	0.84	Positive
10	Digital assessment tools help me understand students' needs more accurately	2.87	0.86	Positive
11	AI platforms can assist with automated appointment scheduling and follow-up reminders	3.02	0.79	Positive
12	Using AI tools in counselling can help manage the high student-to-counsellor ratio in universities	2.95	0.81	Positive
13	AI platforms cannot replace the empathy and human judgment needed in counselling sessions	2.64	0.92	Positive
14	Digital assessment platforms save time and allow me to attend to more students efficiently	2.89	0.85	Positive
15	AI-assisted tools can help identify students at risk who may not seek counselling voluntarily	2.79	0.88	Positive
16	I do not trust the accuracy of AI-generated recommendations for student counselling	2.58	0.95	Positive
	Cluster Mean	2.83	0.86	Positive

*(R) denotes a reverse-coded item. Scores were reversed before analysis so that high scores consistently reflect positive perception.

Table 2 shows that all eight items exceeded the criterion mean, with item means ranging from 2.58 to 3.02 and a cluster mean of 2.83 (SD = 0.86), the lowest among the three clusters, indicating a positive but cautious perception of AI-assisted platforms. The markedly higher standard deviations on items 13 and 16, the highest recorded across the entire instrument, show that counsellors were sharply divided over whether AI tools can substitute human empathy and whether AI-generated recommendations can be trusted, suggesting that concerns about the professional and ethical adequacy of AI are central to how counsellors relate to this category of tool.

Research Question 3: What is the perception of university counsellors of learning management systems for enhancing guidance services in smart learning environments in Enugu State?

Table 3: Mean and Standard Deviation of Responses on Learning Management Systems (n = 82)

S/N	Item	Mean	SD	Decision
17	LMS platforms can be used to deliver psychoeducational content and mental health resources to students	3.15	0.69	Positive
18	Embedding counselling resources within the institutional LMS improves student access to guidance	3.08	0.74	Positive
19	LMS platforms allow me to share career development materials with large numbers of students at once	3.21	0.66	Positive
20	Most students ignore counselling-related content when (R) it is placed on the LMS	2.73	0.89	Positive
21	LMS tools can help me track which students have accessed guidance resources and follow up effectively	2.96	0.77	Positive
22	Using the LMS for counselling services makes guidance more accessible to students with mobility challenges	3.02	0.75	Positive
23	Institutional LMS platforms provide a secure and private channel for students to submit counselling requests	2.88	0.81	Positive
24	Counselling content on LMS platforms is rarely (R) prioritised by university administrators	2.67	0.91	Positive
Cluster Mean		2.96	0.78	Positive

*(R) denotes a reverse-coded item. Scores were reversed before analysis so that high scores consistently reflect positive perception.

Table 3 shows that all eight items exceeded the criterion mean, with item means ranging from 2.67 to 3.21 and a cluster mean of 2.96 (SD = 0.78), indicating a positive perception of LMS platforms. The higher standard deviations on items 20 and 24 reflect counsellors' awareness of institutional barriers, namely limited student engagement with LMS-based content and insufficient administrative prioritisation, that currently constrain the practical use of LMS for guidance service delivery.

Discussion

The finding that counsellors hold a positive perception of video-conferencing tools is consistent with the structural conditions of counselling practice in Nigerian universities, where high student-to-counsellor ratios and a geographically dispersed student population

create a practical need for tools that sustain contact regardless of physical location. This is consistent with Guler and Ceyhan (2023), who found that counsellors who used online platforms during the pandemic developed positive orientations toward accessibility and flexibility, and with Austin, Bandy, and Cawley (2025), who found that university students rated digital therapy services as comparable to, or better than, in-person services in terms of perceived effectiveness. However, the higher variability on items 5 and 8 indicates that this positive perception is not uniform: some counsellors remain unconvinced that video platforms can support the observation of body language, silences, and other relational cues that inform professional judgement, a concern Roddy and Gabriel (2024) described as a 'thinned' counselling encounter that may be less suited to clients in acute distress. In the Nigerian university context, where students often present with intersecting problems including financial stress and family pressure, this reservation is professionally grounded rather than a matter of simple technology resistance.

University counsellors held a moderately positive but cautious perception of AI-assisted platforms, the lowest-rated component in the study. The most direct explanation, and the one best supported by the data, is that the two reverse-coded items generating the greatest variability in the entire instrument concerned empathy and trust, the two dimensions most central to the ethical core of counselling practice. This pattern aligns with Agbana et al. (2024), who found that Nigerian counsellors have had limited professional exposure to AI tools, and with Agwaonye et al. (2024) and Kenku and Uzoigwe (2024), who documented that Nigerian users and professionals raise specific, legitimate concerns about the privacy, accuracy, and psychological comfort associated with AI tools. Despite this caution, the positive cluster mean indicates that counsellors accept AI tools for narrower logistical functions. This distinction, between comfort with AI for administrative functions and caution about AI in relational functions, is consistent with Ndunagu et al. (2025), who found that well-designed automated systems can perform useful support functions in Nigerian institutions without displacing the counsellor's relational role.

Counsellors held a positive perception of learning management systems, with item 19, on sharing career development materials with large numbers of students, receiving the highest mean in the cluster (3.21). This is consistent with the non-sensitive, easily distributed nature of career development content and with Ochieng et al. (2024), who found that although student support services in sub-Saharan Africa remain disconnected from LMS infrastructure, the potential for integration is substantial once administrators commit to it, and with Ezeanya et al. (2024), who demonstrated that LMS-embedded tools can improve student engagement in Nigerian universities.

Conclusion

This study examined university counsellors' perception of video-conferencing tools, AI-assisted platforms, and learning management systems for enhancing guidance services in smart learning environments in Enugu State. Counsellors held positive perceptions of all three tool categories, with video-conferencing rated most favourably, LMS platforms rated positively but constrained by institutional barriers, and AI-assisted platforms rated with the most caution due to concerns about empathy and trust. These findings indicate that counsellors' generally receptive perceptions provide a workable foundation for digital counselling integration, provided that infrastructure investment, professional training, and institutional policy address the specific reservations identified for each tool category.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. University managements in Enugu State should invest in reliable internet infrastructure and provide counsellors with institutional devices for video-conferencing, and should develop clear institutional protocols for online counselling, including guidelines for managing sensitive disclosures and crisis situations through digital platforms.
2. The Counselling Association of Nigeria and university human resource departments should design and fund regular, structured training programmes that build counsellors' digital literacy, their skills with AI-assisted tools, and their capacity to navigate the ethical dimensions of technology-mediated counselling, so that positive perception is translated into confident and ethical digital practice.
3. Universities in Enugu State should develop institutional policies that formally integrate counselling resources, referral pathways, career development materials, and psychoeducational content into their existing LMS platforms, with dedicated administrative support and strategic placement to ensure that guidance content is visible and accessible to the student population.

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