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Artificial Intelligence Driven Student Support Services in Nigeria Dual Mode Universities

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ABSTRACT

This paper examined the state of Artificial Intelligence (AI) driven student support services in Nigeria dual mode Universities. The paper focused on Open Distance Learning ODL mode in Nigeria dual mode Universities. Narrative literature review was used to exploit the concept of Open and Distance Learning, characteristics, policy framework, students' support system, functions and relevance of student support services in ODL. It equally presented the challenges of AI-powered support systems and the benefits. Most importantly, the authors' harnessed ways in which Artificial Intelligence can improve students' experience in distance learning environments. The authors suggested that dual mode universities should improve information technology (IT) infrastructures in the Universities for effective implementation of AI driven student support services in Nigeria dual modes Universities. The national AI policy framework should be adopted and reviewed to fit into the programme and peculiarities of each university offering dual mode tertiary education.

Keywords: Artificial intelligence, Student support services, Open Distance learning, Policy framework

INTRODUCTION

Open and Distance Learning ODL was introduced as a means of meeting the educational needs of the society worldwide (Jimoh, 2013). This quest of reaching every individual through education have resulted in a number of diverse approaches still categorized as distance learning (UNESCO,2002). Distance learning was seen to be a major approach that promote and enhances the desire for further education especially among teachers and other workers. As a result, Open and Distance Learning (ODL) has gained popularity due to its flexibility and ability to reach diverse learners in Nigeria. in fact, Open and Distance Learning in Nigeria predates Nigeria independence, as lot of Nigerians during the 1950s to 60s had their post basic education through correspondence studies (Eke, 2019). Nigerians seek admission to the Correspondence College in Universities and Institutions in the United Kingdom, some others gained admission and registered as external candidates for the General Certificate of Education (GCE) both Ordinary and Advanced Level of the University of London and Cambridge. These programme were at a time hot cake which what Nigerians called the best brain Craig for and which became the tool that improve the educational progress in Nigeria and most African countries.

A closer look at the experience of United Kingdom distance learning programme will show that ODL have undergone several stages and come to the point of success and it is this success in the United Kingdom Open University that led to the establishment of other open universities around the world (Jegede 2016). To be specific, the Oxford University of the United Kingdom's extra mural studies at the University College Ibadan that started about 1947 helped a large percentage of Nigerians who were interested in higher education and were unable to get a place in the limited admissions into the University College, Ibadan, to get enrolled through correspondence study (Jegede, 2016).

This progress in a way influence the open and distance learning mode in UK and other western countries and by extent Nigeria. ODL was first employed at the tertiary level by Ahmadu Bello University about 1972, it was a mode for training of teachers used for Teachers In-Service Educational Programme in 1975. This effort was supported by the University of Lagos following establishment of ODL as part of the conventional programmes run by institution (Commonwealth of learning 2022). The Ahmadu Bello University also initiated the establishing Correspondence and Open Studies Unit in 1974, this eventually became known as Correspondence and Open Studies Institute which is known as Distance Learning Institute (DLI). With this act, many other Universities in Nigeria picked interest in operating dual mode of programme accommodating open and distance learning as part of their programmes. It is equally these efforts that encourage the establishment of National Open university of Nigeria in 2002 (Akande, 2021).

The applicability of the dual mode of ODL discussed earlier indicates that the introduction of technology in distance learning is predicated on these two models "Correspondence education and Group Distance learning Model" because these models are more of students centred where technology becomes the best tool for sustainability and efficiency. However, as ODL grows, the need for robust student support services becomes more critical (Ezenwa, & Chukwu, 2022). Especially with the improvement of Information Technology and the introduction of artificial intelligence in the whole picture. The services desired by students have advanced and more is thus required of teachers in ODL. The question right away is what must teachers and instructional

designers do exceptionally? Because if teachers or institutions running these programmes are not up and doing, there is the likelihood that such may lose relevance considering the speed of events in technology development and adoption. It is these pressing concerns that drives the need to exploit students' support services in an AI driven era especially in ODL.

Concept of Open and Distance Learning

Open and Distance learning ODL is a programme targeted at learners who have completed basic and secondary education and those who could not school at the appropriate time (Jimoh, 2013). It has been a recognized and acceptable approach for improving workers skills and on the job training (Unesco, 2002; Eke, 2019). Distance learning can be seen as a learning model that provides for separation of learners and teachers by face to face contact, time, location and others. It is a programme characterized with different names based on individual perceptions. Thus, it is known with the following names correspondence education, home study, independent study, external studies, continuing education, distance teaching, self-instruction, adult education, technology-based or mediated education, learner-centred education, open learning, open access, flexible learning and distributed learning (The Commonwealth of Learning, 2000). Distance learning is an educational process where teaching is conducted by someone removed in space and time from the learner using a print or electronic medium to carry out the learning exercise (Madlela & Ngakane, 2024). ODL may also apply the use of synchronized and non-synchronized courseware in teaching and interaction between teachers and learners.

Correspondence Education is indeed a model of distance learning where the examination preparation model and a regular teaching by presenting written or print texts, and by assignments, their correction, and by a regular and ad hoc correspondence between the teaching institution and the students were adopted to ensure effective lesson delivery and consequently adequate and appropriate evaluation being delivered (Babalola, 2014; Ogbeide, 2019). It is on record that this model of ODL is the oldest and most adopted in the entire globe, the model is simple and relatively cost effective to administer. It is used to a great extent by distance teaching Universities that are multi-media and open. (Ogbeide, 2019).

There are other models of distance learning such as Group Distance learning Model were radio and television are used as teaching media, especially when transporting instructions developed by experts to students. The model emphasized that instructions are received by groups of students already formed for such purposes and this results to mandatory classes where students follow the explanations of instructor(s). Engaged in brainstorming discussion based on what they have heard from the instruction, they participate in assignments and take test. By implication apart from flexibility, easy access, and cost effectiveness, Open and Distance Learning programmes are student-centred and therefore differ from conventional university system where both instructional activities and course materials are lecturer-centred (Ogbeide, 2019).

Concept of Student Support Services

The use of students support services has become the vehicle for giving support that can enhances the effectiveness of ODL (Olufunke,& Adeyemi, 2021). Students' support services (SSS) in the context are the enhancement activities that enrich their participation in ODL programme. It ranges from counselling, academic and technological orientation on skills deployment for the smooth running of ODL. This may differ from one institution to another, depending on the programme and the tech skills required by each institution. The bottom line is that students' support services are essential ingredient for supporting self- pace learning and where there is exist the absence of such learners run into trouble in their studies.

Students' support service (SSS) may include defining the course area and concepts, enhancing feedback mechanism and following up students 'progress. The second perspectives of SSS may include giving information, exploring problems and suggesting directions, feedback to learners on non-academic activities such as aptitudes, skills and practical that can help to promote study advocacy (Simpson, 2002). Further study of Simpson's distance student support model, underpin three skills and qualities that distance education students need to succeed in their studies. The three areas are: cognitive, emotional and organizational (Simpson, 2016; Silkolu & Lekhtho, 2020). These areas are were most students needs support to enable them overcome their challenges. Shikulo (2018) contended that assessment can be both formal and informal, and requires students to reflect on their strengths and weaknesses. Timely feedback from tutors helps to ensure effective learning and sustain student motivation. In distance education, timely and effective feedback is an essential teaching practice. It worth stating that assessment is some time meaningful when the learner are well informed, so they are able to know what is needed even in their best performance.

There are other SSS models such as Tait (2000) which identified the following threefold functions of SSS in ODL: cognitive, affective and systemic. The , author emphasized that cognitive function is concerned with supporting learning through the standard and uniform elements of course materials and learning resources for all students. It is on this note that Silkolu & Lekhtho, (2020) argued that Distance students need considerable support since they do not attend classes on a daily basis like fulltime students. However, one significant challenge facing distance institutions is the provision of convenient and effective support services for isolated students. It is the lack of such services that create challenges to ODL away from the expected academic challenges.

SSS are classified according to the kinds of structures or systems that can be devised to support learners. Therefore, One way of identifying SSS will be to check the characteristics of the ODL programme, so as to determine the kind of support learners can expect, the support can be distant support, probably from institutional headquarters; Individual support, specialized in terms of course and needs; Distance media only especially in terms of technology and media integration, it can be synchronous and asynchronous for both distance and face to face learners.

However, institutions may decide to establish her learner support services based on their interest, but basically the two basic functions of learner support are on students' tuition and counselling. Every other services rendered as SSS are derivable from the two and can be broken down into a number of tasks that align to each of the two functions. Dhillon, (2005) underpinned the most desirable forms of students support services are the employment service, learning support, counselling service and facilities which cater for students' academic, emotional and self-development needs. Student Support Services can be said to be more effective when it is asynchronous in nature. Where students need a little touch of face to face interaction or help to take care of the technological challenges, it was observed that SSS is often challenging when the programme is synchronous and when the students are not skillful in the use of the application employed for the services (Omogbadegilu, et al., 2014).

Artificial Intelligence Ai Driven Student Support Services in ODL

The introduction of artificial intelligence in education and subsequent integration in ODL marks a great paradigm shift from the working of ODL in the time past. The integration of Artificial Intelligence (AI) in ODL has been highlighted as a promising approach to enhance learner's experience by offering personalized, real-time, and automated support. AI plays a revolutionary role in enhancing accessibility and inclusivity in ODL by providing innovative solutions that address the unique needs of diverse learners. (Prasad, 2020). The author further declared that AI applications can personalize learning experiences, provide assistive support, and remove barriers for learners with disabilities and marginalized communities. In essence the use of AI have changed ODL and brought high level of security in term s of support services. Educational institutions can use AI to support creative research methods, optimize administrative processes, and improve individualized learning experiences (Holmes et al., 2019). For AI to improve individualized learning, implies that it has the capacity to provide students support services in the area of responding to their individual questions and providing adequate feedback in students learning challenges.

It is clear that AI possess the potentials to providing personalized learning for ODL as one of its most important effects on higher education. More effective learning outcomes is achievable adopting AI-driven systems to analyze students' learning patterns and modify educational materials to suit individual needs (Nguyen et al., 2018; Omenka, Reuben, & Usman, 2024). AI-powered chatbots and virtual assistants to students for routine inquiries in their individualized study, streamline admissions processes, and help in management of student support services, thus freeing up staff to focus on more complex and strategic activities (ZawackiRichter et al., 2019).

The study of Zhang et al. (2020) emphasizes that AI in education can facilitate more personalized learning paths and provide students with instant feedback. In the context of ODL, AI can bridge the gap between the lack of face-to-face interaction by offering digital counseling, academic tutoring, and technical support.AI-driven student support services in ODL environments can provide tailored assistance, automate administrative tasks, offer real-time academic help, and ensure that learners receive continuous engagement throughout their studies. AI technologies such as chatbots, predictive analytics, and adaptive learning systems have been instrumental in driving this transformation. These tools can analyze student behavior, predict academic challenges, and offer timely interventions.

Specifically, the integration of AI into student support services shall among others enhances the effectiveness of ODL in several ways including:

1. The delivery of highly personalized learning experiences according to individual learning styles and needs;
2. With AI students are able to receive timely assistance, regardless of location or time zone, which is critical for distance learners.
3. AI's predictive analytics and early intervention capabilities help institutions identify and support at-risk students, reducing dropout rates.
4. AI tools enhance engagement by facilitating communication, collaboration, and interaction between students, tutors, and institutional staff.

These functions presents Artificial Intelligence as key factor for consideration in any ODL programme, specifically as students support is concern.

Policy Framework for Artificial Intelligence Driven Student Support Services In Nigeria

The integration of Artificial Intelligence (AI) into student support services is a strategic approach to improving the quality of education and addressing students' academic, psychological, and social needs. This policy framework seeks to establish a set of guidelines for the adoption and management of AI-driven systems in Nigerian higher education institutions to ensure they are used effectively, ethically, and inclusively (Nigerian Universities Commission 2021). This same policy is applied to both dual mode and conventional and distance learning carried out by the universities in Nigeria. the integration of AI is geared toward the attainment of the following objectives: Enhancing the quality and accessibility of student services through AI tools, Ensuring ethical standards and data privacy in the use of AI systems, Supporting academic advising, mental health, and career guidance through automated systems, Promoting inclusivity and fairness in AI applications and Monitoring and evaluating the impact of AI on student outcomes (National Information Technology Development Agency, 2019; UNESCO. 2021).

This policy applies to all higher education institutions (HEIs) in Nigeria that are implementing or planning to implement AI-driven tools for student support. It covers the following areas: Academic advising and tutoring, Career counseling, Mental health support, Administrative support (e.g., enrollment, finance, etc.) Personalized learning and intervention strategies (European Union. 2018). Each university to domicile AI systems should be able to design it in such a way that should accommodate the diverse needs of students, particularly those with disabilities or those from underrepresented groups. Institutions must implement bias-checking mechanisms to prevent discriminatory outcomes based on gender, ethnicity, or socioeconomic status (European Union. 2018).

AI-driven student support services should augment rather than replace human oversight. Educators, counselors, and administrators must remain involved in key decision-making processes to ensure that the AI's role is advisory, with humans making final decisions when necessary. Institutions must regularly monitor and evaluate the performance of AI tools to ensure they are meeting desired outcomes. AI systems should be updated periodically to incorporate feedback from users and improve their effectiveness (UNESCO. 2021). As a result, Institutions should invest in the necessary infrastructure to support AI-driven systems, including reliable internet connectivity, cloud computing services, and cybersecurity measures. Staff must be trained in the use of AI technologies to ensure smooth implementation. Training programs on capacity building should be established to equip staff and students with knowledge on AI technologies, ethical implications, and the management of AI tools in education.All AI-driven systems must comply with Nigeria's existing laws on education, technology, and data protection. This includes adherence to the NDPR, the National Information Technology Development Agency (NITDA) guidelines, and international ethical standards such as the General Data Protection Regulation (GDPR)**,** where applicable (National Information Technology Development Agency, 2019). This framework can serve as a foundation for further policy development and adaptation to specific institutional contexts in Nigeria.

Challenges of AI driven Student Support Services in Nigeria

Despite the potentials of AI in enhancing student support system, there are significant challenges to implementing AI-driven support services in ODL settings in Rivers State. Necessitating a deeper understanding of these challenges and potential solutions. AI Challenges hindering effective implementation of AI driven ODL in Rivers State may include the following:

a. Inadequate Technological Infrastructure

b. Poor Digital Literacy among teachers and staff

c. High Cost and Maintenance of AI

d. Ethical and Privacy Concerns**:**

e. Cultural Resistance

Possible Solutions

Improvement of Technological Infrastructure: There is a need for greater investment in digital infrastructure across the Rivers State universities. The two universities and government should collaborate with technology providers to improve internet connectivity, provide affordable devices, and ensure reliable power supply. Public-private partnerships can also play a vital role in funding and developing the necessary infrastructure.

Digital Literacy Training: Institutions should prioritize digital literacy training for both students and faculty. Offering workshops, online tutorials, and resources on how to use AI tools effectively can help reduce the digital divide. This should be a part of the curriculum and a key element of staff professional development programs.

Cost-Sharing and Partnerships: To mitigate the high costs of AI solutions, institutions can explore cost-sharing arrangements or form partnerships with AI service providers. These partnerships may involve educational technology companies offering discounted services to educational institutions, or government funding to support the development of AI-driven solutions.

Data Privacy Policies: Establishing clear data privacy policies that protect students' personal information is critical. ODL institutions should adopt strict data governance frameworks to ensure compliance with data protection laws. Transparency in how student data is used and managed will build trust in AI-driven systems.

Change Management and Stakeholder Engagement: overcoming cultural resistance, it is crucial to engage all stakeholders, students, faculty, administrators, and policymakers to have a common understanding before the implementation process. By fortifying the partners on clear communication about the need for AI students support services, and addressing concerns through forums and workshops. Institutions can create a more accepting avenue for AI adoption especially through the review of AI policy framework and domesticate it as a working document for the institution.

Suggestions

As a result of the challenges of AI in the enhancement of student support services in Nigeria dual mode Universities, the authors made the following suggestions as a way forward to the challenges of effective utilization of AI in the enhancement of support services in Nigeria.

1. Dual mode universities should improve information technology (IT) infrastructures in the Universities for effective implementation of AI driven student support services in Nigeria dual modes Universities.
2. The national AI policy framework should be adopted and reviewed to fit into the programme and peculiarities of each university offering dual mode tertiary education.

3. Government and universities should prioritized technological infrastructural development to enhance the use of AI in both instructional delivery and student support services.
4. Universities should provide a sustainable and reliable data privacy policies to protect students' personal information.
5. Institutions should organize workshop and orientation on digital literacy and chat the way forward among students of ODL particularly as it concerns lesson delivery and students support services.

Conclusion

AI-driven support services holds significant potential to enhance the experience of learners in open and distance learning programs in Nigeria Dual mode Universities. While challenges such as inadequate infrastructure, digital literacy, and ethical concerns persist, it can be mitigated through strategic investments, training programs, partnerships, and clear policies. With the right approaches, AI can play a transformative role in making ODL more accessible, personalized, and efficient for learners in dual mode universities around the world. Thus a quick assessment of the challenges and improvement on the students support services will serve a great deal in ODL programmes in Nigeria.

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