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The Place of Course Materials in the Design and Delivery of ODL

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Abstract

Course materials play a crucial role in facilitating effective teaching and learning by providing visual aids, hands-on experiences, and interactive resources to enhance learners' understanding of concepts. They continue to be perceived as the chief instrument of instruction in Open and Distance Learning (ODL). Hence, there has been an unprecedented surge of interest among ODL providers to invest enormously in designing, developing, and delivering these materials. This paper interrogates the critical place of course materials in ODL by drawing procedural examples from experiences at the National Open University of Nigeria (NOUN). Through a case study of NOUN and a review of literature, it sheds light on how the use of quality course materials has transformed traditional teaching practices and empowered learners for success. It argues that there is a visceral link between these materials and pedagogy, as the former constitutes the key instrument used to convey instructional information to learners at NOUN. The university adopts a collaborative course team approach in designing and delivering course materials, and a typical team includes a developer, writer, instructional designer, editor, graphics artist, and multimedia expert. This paper contends that if course materials are to contribute optimally to improving performance in Nigeria, there is a need to further their engagement, interactivity, conversationality, and credibility. Meanwhile, some key challenges to the design and delivery of quality course materials

include a scarcity of experienced professionals and pressure on course team members to deliver high-quality content in a limited time. Among others, the paper calls for further support from the government and industry to scale up the scope and quality of course materials production through the proper deployment of Generative Artificial Intelligence to improve learners' performance and employability.

Keywords: Course Materials, Instructional Design, NOUN, Open and Distance Learning

Introduction

Course materials lie at the heart of Open and Distance Learning and play a crucial part in higher education. Because they help to improve learning outcomes, the use of these materials in teaching and learning is expanding considerably throughout the world. Such expansion calls for stakeholders to reflect more on the intrinsic value of these resources. This paper is based on the authors' long working experience in ODL and higher education. Particularly, this deep reflection at the National Open University of Nigeria (NOUN) discusses milestones and challenges that can guide and direct the university, other ODL providers, and policymakers in the design and delivery of course materials.

The Commonwealth of Learning (COL) defines ODL as the provision of distance education opportunities in innovative ways to mitigate or remove barriers to access, such as age, disability, finances, prior learning, social, work or family commitments, incarceration or other such barriers. "Open refers to a commitment that removes any unnecessary barriers to access learning. Distance education refers to teaching and learning that temporarily separates teacher and learner in time and/or place; uses multiple media for delivery of instruction; involves two-way communication and possibly occasional face-to-face meetings for tutorials and learner-learner interaction. Open learning is not the same as distance learning, but both are complementary and hence the two terms are often used together as open and distance

learning" (COL, 2020, p. 4). ODL is an innovative, flexible, learner-centred move beyond the traditional brick-and-mortar classroom boundaries. It is a cost-effective method of education that transcends time, location, space, and schedule and is suitable for diverse education contexts, including higher education, vocational, and non-formal education. ODL aims to provide high-quality education at a lower cost, as evidenced by COL's experience, which shows that ODL and technologies can be leveraged to increase access to quality education, skills development and lifelong learning at lower costs (Agbu, 2015; COL, 2022; Peters, 2022).

ODL is not a novel concept; it is traceable to correspondence education, which emerged in the late 1800s when the University of London began offering organised distance learning degrees in the year 1858 (Singh & Rathore, 2018; Bender, 2023). Since then, it has been growing rapidly and its acceptance cuts across the world (Salawu, 2018). It has witnessed active participation as higher education institutions in all countries of the world have a form of ODL or the other. ODL was born to equalise access to higher education, suppress barriers between learners and educators, understand and stimulate growth and expansion, and find models of its sustainability.

Ojo, Salawu, & Adedapo (2023) highlighted that it is through ODL that various educational terms, such as asynchronous and synchronous, faceless and blended, were introduced. Today, in 2025, the journey that formally commenced with UKOU has recorded the establishment of over 1,000 institutions offering open and distance learning courses. As the ODL movement grows and innovates, it has encountered both opportunities and barriers in every corner of the world where it has taken root. Foremost among the opportunities is the production of high-quality course materials in developed and developing countries.
Originating from correspondence studies, Peters (2022) holds that ODL is designed to bridge the transactional distance between the teacher and learner who are separated in time and space. Nigeria embraced ODL due to the quite limited carrying capacity of the conventional tertiary institutions available in the country (Maiyaki, 2024). Established formally in 2002, the National Open University of Nigeria is the foremost and all-time provider of open and distance

learning (Jegede, 2016). Licensed by the NUC, this central national open university offers a wide range of flexible and affordable programmes to learners all over the world. It offers programmes in nine faculties: agriculture, arts, computing, education, health sciences, law, management sciences, science, and social sciences.

As the pioneer single-mode ODL university in Nigeria, the institution has committed huge human and financial resources to the development, writing, and publishing of course materials for its teeming learners. This commitment aims to provide high-quality teaching and learning materials to tutors and learners spread across the 130 study centres within the country. This commitment is also informed by the belief that rapid progress towards higher levels of educational achievement in the developing world will support and sustain speedy economic and social development (Igwe, 2020).

This paper describes the place of course materials in the design and delivery of ODL using the NOUN experience. It also outlines the benefits of these instructional materials to tertiary institutions, faculty, students, and learners in the ODL landscape and calls for further support from the government and industry. The initial step of this paper is to define course materials and then describe how NOUN has designed, developed, and deployed them over the decades, what direct investments have been made, what has been achieved so far, and what the obstacles and prospects are. It concludes with a description of how the NOUN course materials experience can further benefit the university and other institutions in the country and beyond. The overall purpose of our paper is to come up with evidence-based information on the vital place of course materials by drawing on first-hand experience from one of the leading ODL providers in Africa.

What is Special about Course Materials?

This paper will not attempt to join the bandwagon in defining or philosophising changing paradigms of course materials, as Okonkwo (2012) and Jegede (2016) have attempted this. Rather, this paper will explore the normative surroundings of the concept and its application. Course materials have been variously defined by practitioners and

institutions from academic, didactic, pedagogical and technical standpoints. Course materials are understood as specially produced study materials that are produced in-house, adapted, and adopted, which are based on self-learning. The proper use of self-learning materials supports both educators and learners to deepen understanding of concepts and enhance an active learning experience (Lane, 2022). These self-instructional resources are prepared before students start to study; they come in diverse formats: from textbooks and worksheets to digital media and hands-on resources. They include bibliographies, Braille, charts, diagrams, handouts, images, laboratory equipment, lectures, Moodle, multimedia presentations, posters, study guides, syllabi, videos, visual aids, worksheets, educational games, Open Educational Resources (OER), as well as other manipulatives (NOUN, 2024).

In NOUN, self-learning materials are developed in units and modules; they also exist as practical manuals for science-based, health sciences, physical and life sciences, communication and languages courses. Modularised course materials are friendlier to assess because they are self-contained and focused on specific objectives (Adewale, 2025). The printed course materials format has remained popular in NOUN since its inception due to its inherent advantage of print over other formats. Following an adaptation of Gagné (1970) by Bååth (1986), the following nine functions of course materials are widely recognised as essential: 1. To arouse attention and motivate; the presentation of objectives that are within close reach appears to be of particular importance in this respect. 2. To make students aware of the expected outcomes of the study. 3. To link up with previous knowledge, interest and curiosity. 4. To present the material to be learned. 5. To guide and structure, offering guidance for learning. 6. To activate. 7. To provide feedback. 8. To promote transfer. 9. To facilitate retention.

The Design and Delivery of Course Materials in NOUN

NOUN course materials have a far-reaching impact on learners and the public. Through their unique design, development, and production approaches, they provide the core information that learners will experience, learn, and apply during a course. Typically, ODL students

study course materials specially prepared for them. The design and delivery of course materials are based on the principles of learning theories and techniques to create desirable conditions that will facilitate effective self-learning, i.e. knowing the objective, following the content step by step, and involving the students actively in learning (Rahman, 2006). These custom-made materials are modularised to help home-based students learn effectively (Brahmawong, 1998).

The preparation and delivery of instructional materials in conventional settings is different from the preparation of course materials for open and distance learners. In the conventional setting, the teacher is physically present in a lecture hall with his students, and he can afford to be a little less than careful in his preparation and facts without considering the reader's ability to learn by themselves. Another layer is that in preparing materials for the open and distance learner, the teacher is obliged to be more careful, as their material is immediately in the public domain once it is published. The ODL course writer must present the concept unambiguously, putting the reader's ability to learn by themselves into consideration. Titles of topics and subtopics are highlighted so the learners know where they are all the time and can track their progress and the direction they are headed. The size of units and modules is consistent with the time allotted to the course. In most instances, a unit sometimes corresponds to a week's work. Rahman (2006) argues that each unit must contain feedback on the activities assigned to the learners so that they can check the result of their work. Rowntree (1990) posits that activities are the most important part of learning. A typical Unit in the NOUN Course material will generally contain at least eight navigational components to assist students to learn by themselves: Introduction, Learning Outcomes, Body of Content, In-text Question, Self-Assessment Exercises (SAEs), Conclusion, References, and Possible Answers to SAEs.

The course materials development process essentially overcomes the four stages: pre-planning stage, planning stage, authoring stage, and production stage (Rahman, 2006). The power to either engage or demotivate students is in these materials. The development of course materials in line with the current practices in NOUN has been inspired not only by the belief that it will advance knowledge creation,

creativity, and social welfare, but also by the growing success of ODL elsewhere.

Contemporary course material design, development, and production demand that web-based systems and technology are harnessed (Jegede, 2016). Presently, all NOUN course materials are developed in-house, and course content is aligned with the aims and objectives of the programmes (NOUN, 2009). The house style of the institution guides the writers from start to finish. The institution periodically trains and re-trains writers (mostly from conventional face-to-face universities) who are knowledgeable in the course content. Writing from scratch takes not only money but time to hire venues, pay resource persons, and procure support services. This can be very expensive, and it has taken the institution several years to break even.

Other means used to supplement writing from scratch in the early years of NOUN include outsourcing or the adoption of course materials written elsewhere, particularly in the UK and India. For instance, Adamu (2022) submits that course materials from top institutions like the Indira Gandhi National Open University and the Open University, UK, were licensed to NOUN at an early stage of the university. In both instances, adaptations were made to the materials by a team of curriculum experts to ensure the adequacy of local colour and suitability of the materials for Nigerian students. Smart *et al* (2020), while drawing on universal principles, propose embedding social and emotional learning as well as community and societal values into the curriculum and learning materials. However, in the case of Northedge (2005), *The Good Study Guide*, no adaptation was made as NOUN students utilised the material as it was in its original form until 2017 when the university developed GST107, GST707, and GST807, *A Study Guide for the Distance Learner* to be used in its stead.

The Collaborative Course Team Approach

The collaborative course team approach is adopted by the National Open University of Nigeria. This approach is preferred to the single-course writer approach because it ensures collaborative work among a wide range of experts from different disciplines, experiences,

locations, and backgrounds to produce high-quality materials. The collaborative course team approach is a democratic way of developing course materials by bringing together experts in a way that facilitates their cooperation.

The development of course materials for ODL is a continuously evolving process. It is hardly possible to identify generalisable principles for designing, developing, and producing course materials (Holmberg, 2008). The principles for the development and production of course materials are a continuous process involving a team of a variety of staff with a wide range of expertise in various fields. Team members are responsible for the various aspects of the design, development, and production process, such as curriculum design, course coordination, instructional design, administration, etc. Thus, a course team of experts involved in distance education will be responsible for developing course materials for each programme. The composition of a course team varies around the world (and even within a country). However, a typical course team will include course developers, writers, instructional designers, editors, graphics artists, multimedia specialists, and office staff.

A course team of experts are responsible for developing each material unit by unit, module by module. The material development strategies for each subject are centred on the course team's approach to planning, developing, and writing. Where feasible, the team meets physically or online to discuss the layout of the course material. The course team's approach to course material development is systemic, enduring, and ensures timely production. The first vice-chancellor of UKOU, Lord Perry, regards the course team as a very important innovation: “The concept of the course team is, I believe, the most important single contribution of the Open University to teaching practice at the tertiary level” (Perry, 1976: 91).

Instructional Design and Course Materials

In the development of course materials, instructional design is inevitably an important concern, whether it is interpreted as a ‘science’ based on scholarly analysis of empirical findings or simply as a system

for bringing reasonable expectations, experiences and insights into useful order. Its purpose is to develop validated recommendations for the structuring of effective teaching. It is often combined with the so-called systems approach, which here implies considering teaching as a system with interrelating sub-systems (Holmberg, 2005).

Holmberg (2005) further submits that learning is facilitated by connecting already known concepts and applying them to problems that the student is interested in or becomes aware of. Thus, it is the duty of the instructional designer as a course team member to arrange this by guiding students through the learning tasks and helping them to solve problems of increasing difficulty. It means helping students to attain success step by step, thus creating a strong, continuous motivating force. Hence, Bacia (2024) submits that well-designed course materials enable educators to tailor instruction to meet the different needs and abilities of learners, providing them with ample opportunities for remediation, enrichment, and personalised learning experiences, which contribute to improved academic outcomes.

To navigate the complexities of ODL course material production, each course material is developed in modularised in conformity with the Core Curriculum and Minimum Academic Standards (CCMAS) prescribed by the National Universities Commission (NUC). Guided by the CCMAS, the NUC develops 70% of core courses while individual universities in the Nigerian university system develop 30% in line with their peculiarities.

Credibility, Interactivity, and Conversationality of the Course Material

In *The Good Study Guide*, Northedge (2005) posits that the distance learner is a reflective, self-directed learner who feels a great sense of isolation. This is because, for the most part, learners do feel a sense of isolation unknown to the conventional student and their peers. For instance, Holmberg (2008) argues that the isolated ODL learners have few or no opportunities to compare their work with others and have a strong need to see examples of good practice. Muin (2021) defined isolation in terms of time (concurrent study); space (geographic

dispersal); social (awareness of others), intellectual/experience (academic ability and life experiences); profession (subject related expertise); ICT knowledge; sensory (ability to see/feel/hear peers); cultural; and subject (if anyone else is studying the same topic) (Croft et al., 2010; Au et al., 2018).

Okonkwo (2012) noted that regular textbooks could not adequately fulfil the needs of students at NOUN because of the absence of 'daily' face-to-face sessions, which are available at other ODL institutions practising dual-mode delivery. Therefore, it is considering the foregoing that course materials must be well organised, the right words must be chosen for stating the learning outcomes and language must be conversational and informal, using such techniques as repetitions, visuals, activities and exercises to reinforce key concepts in addition to a tutor-marked assignment and elements of gamification at the end of every unit.

Also, the difficulty level of the language should be comprehensible. The course material is learner-centred, and the content must be broken into manageable chunks; the intended learning outcomes of the course must be presented to learners at the onset of the unit/module. A good material must have good navigation and flow seamlessly like a stream in the consciousness of the open and distance learners to make a lasting impact. A good course material should be interactive, conversational, self-paced and pedagogically sound (Parer, 1992). Furthermore, Adewale (2025) argues that incorporating relevant learning activities, resources, multimedia, or simulations into course materials is essential for enhancing interactivity and engagement, addressing the shortcomings of traditional text-based resources.

Course Materials as Pedagogy and Pedagogue

To further broaden the scope, scale, and role of what the course material is or has the potential to become, it is expedient for us to define it from its pedagogical and pedagogue lens. Translated, pedagogy is the art or science of teaching. The course material, as a pedagogue, refers to it as playing the role of a teacher. The learning path that the course material as pedagogue suggests is organised into progressively

larger blocks of instructional units and modules, each focused on a specific learning outcome. It can be viewed as an instrument for both the teacher and the learner; thus, strong pedagogical support is embedded in the design, development, and production of course materials. On the other hand, the course material as pedagogy refers to its capability to teach by its inherent pedagogical characteristics. Pedagogy in ODL can be classified into three categories: content structure, content delivery, and performing learning activities (Inegbedion, 2025). Strong pedagogical support is embedded in the course materials. Thus, course materials as instruments of pedagogy must promote students' ability to actively learn, explore, and apply knowledge on their own.

The Power of Active Engagement

Course materials significantly enhance the learning experience by actively engaging learners, simplifying complex concepts, and catering to diverse learning styles and needs. One of the primary functions of course materials is to actively capture and maintain student curiosity and interest, promoting active participation. For instance, instructional videos and audio draw students into the learning process by making lessons more interactive and engaging. They break the monotony of traditional lectures by offering varied ways to present information that resonate with learners from different backgrounds. When ODL learners are actively engaged, they are more likely to participate and stay focused throughout their study.

Promoting Active Participation

Active learning happens when open and distance learners are directly involved in the learning process. Materials like worksheets, Moodle, and hands-on tools encourage students to apply what they have learned, making learning more meaningful. Through active participation, students move beyond memorisation to develop a deeper comprehension of the subject matter. They also play a crucial role in helping students understand complex or abstract ideas by breaking them into simpler and clearer terms. Visual materials like charts, diagrams, and videos are invaluable in simplifying difficult concepts by assisting learners to visualise abstract concepts. For instance, in a biology lesson, diagrams of osmosis and reverse osmosis visually

explain how water or other solvents diffuse through a semipermeable membrane, making it easier for students to grasp the crucial concepts.

Simplifying Abstract Concepts and Theories

Some concepts, such as calculus or general relativity, can be difficult to comprehend through reading texts alone. The use of models and interactive simulations helps in simplifying the concepts, giving students a better practical picture of how such concepts and theories, like the structural functionalism and Big Bang Theory, are applicable in real life. Lane (2022) submits that these materials engage students, support diverse learning styles, and provide clear examples to help solidify complex ideas. Thus, when used strategically, course materials have the innate ability to bridge the gap between abstract concepts and real-world applications, facilitating retention, making learning more insightful and meaningful.

Adapting to Diverse Educational Needs

Course materials allow teachers to adapt lessons and imbue them with local colour to meet the different needs of students in their classroom. Whether working with students with special needs or accommodating different proficiency levels, these materials help teachers create an inclusive learning environment to ensure that no one is left behind.

Supporting Different Learning Styles

It is also in place of course materials to cater to various learning preferences, ensuring that all students can thrive and flourish. Students learn differently. While some may prefer visual aids, others may learn better through auditory or kinesthetic methods. Course materials like posters, videos, and other physical objects used as teaching tools to engage students in hands-on learning support all these styles, ensuring that each student receives the best learning experience based on their present needs. The use of these elements aids in the retention and recall of information through repetition, visualisation, and multisensory experiences, resulting in better memory retention and improved academic achievement (Bacia, 2024).

Generative Artificial Intelligence (GenAI) and Course Materials in NOUN

GenAI is a transformative tool for experts engaged in course development from initial course mapping and objective refinement to content generation and media production. We believe in the power of a collaborative working relationship between humans and GenAI, one in which the machine's strengths in processing information and generating ideas augment the faculty's expertise in subject matter, pedagogy, and student engagement. In today's digital landscape, fluency in GenAI tools is a crucial aspect of student digital literacy. Lang (2024) and Fang & Broussard (2024) argue that in embracing GenAI as a partner in course development, educators equip themselves not only to stay ahead of the curve but also to effectively prepare students to navigate and utilise this powerful technology within the context of their academic pursuits and future careers. As AI continues to evolve, so will its capabilities to support faculty in creating dynamic and engaging learning experiences. The future of education lies in harnessing this powerful technology while prioritising human expertise and the irreplaceable value of human-to-human interaction in the learning process.

Designing a well-structured and engaging course takes time and enormous resources; GenAI tools such as ChatGPT, Copilot, and Gemini can help enhance and streamline workflow while incorporating research-based best practices for course design. While course writers are still needed to provide subject matter expertise, GenAI can assist with some of the heavy lifting of developing learning objectives, organising course content, creating course outlines, generating quizzes, summaries, and even course structures, aligning course components and assessments. The correct use of GenAI can significantly reduce the time course team members spend on content development, writing, editing, graphics and multimedia, while producing quality content.

Open Educational Resources (OER) and Course Materials in NOUN

Open Educational Resources is a means of providing current and high-quality content in various fields of study in ODL. OER bridge the gaps of the inadequate number of required professionals and encourages collaboration that enhances the quality of knowledge and skills taught or learned. NOUN recognises the growing trend towards open content and the role that OER plays in opening knowledge for the common good. The university has a policy that guides the creation and adoption of OER in NOUN in its course material development. It is also committed to neutralising policies and barriers that interfere with the creation and adoption of OERs. Staff are encouraged to adhere to the license model of OERs used and subsequently license their works according to the specified conditions of the model.

Direct Investments in Course Materials in NOUN

The key direct investment by NOUN towards the Design and Delivery of course materials is the establishment of the Course Material Development Unit (CMDU). The CMDU builds on the existing human and material resources to provide contextually relevant resources in diverse formats. The increased availability of quality teaching-learning materials online and in print has paved the way for learners, lecturers, and the public to gain access to a wide variety of contextually relevant course materials in diverse formats.

The CMDU serves as the 'contact point' between academic departments and the publishing house. It works with the departments to select course developers and writers and coordinate the writing process. The CMDU receives course materials from departments, documents them, and sets in motion the editing process - content, language, and structure. After the completion of the editing process, the Unit forwards materials to the NOUN Printing Press to initiate the printing process, and to the Directorate of ICT and the Directorate of Learning Content Management System for web upload and creation of OER. Printed course materials are sent to the Central Warehouse for

transitory storage before onward distribution to Study Centres, where students collect their copies.

In addition to the above, the CMDU is also responsible for monitoring the performance, review and evaluation of the materials. Lecturers and students report issues, observations, and difficulties detected in the material. The feedback is analysed and remedied accordingly in concert with the respective faculty. In this way, the quality of the courses is maintained in the programmes. The Unit is also charged with updating the status of the materials for record-keeping and information purposes. Through the CMDU, NOUN has designed and delivered over 3,000 course materials as of the end of 2024.

Some Constraints in the Design, Development, and Delivery of Course Materials

Despite the importance of instructional materials in catalysing students' academic performance, constraints exist in their effective utilisation within educational contexts – even as the swift progression of technology creates fresh challenges for tutors to keep up with current trends in higher education. Some constraints are listed below:

Inadequacy of Experienced Professionals
In the context of a developing world, finding the right calibre of academics and instructional designers to design, develop, and write course materials in Nigeria is a major challenge. Thus, sourcing the right calibre of team members with the necessary expertise to cover the full range of courses in the various subject areas can be daunting. Most academic staff members from conventional universities have little or no training and experience in distance learning. It takes time for new academics to navigate the ODL environment with ease. Again, experienced instructional designers are extremely few in the Nigerian university system. Mastering the ODL course design and development process, including detecting and analysing open and distance learners' needs, establishing adequate learning outcomes, delivering instruction effectively, and managing projects successfully, could be overwhelming. Thus, sometimes, for this reason, assembling a course team is an uphill task.

Pressure on the Course Team

Most course developers and writers are sourced from other higher educational institutions and professional bodies outside NOUN. These professionals are usually pressured to develop, write, and submit materials within a limited time frame. Excess workload has remained the burden of the in-house staff on the course team due to the inadequacy of staff. Pertinent staff are saddled with the responsibility of designing, developing, writing, editing, and revising course materials aside from other official engagements.

Insufficient Infrastructure

While ODL has made some groundbreaking contributions to course materials development, critical infrastructural deficiency is a major hindrance towards fulfilling its promise of transitioning societies. Some ODL programmes are relatively new in Nigeria and do not have sufficient technological infrastructure and learning environment to develop their course materials. Hence, course coordinators face difficulties in developing and writing, especially for newly introduced courses in computing, natural, physical, and life sciences.

Conclusion

Course materials have the potential to improve learning by serving as pedagogy and pedagogue, transforming the way higher education is delivered and consumed in ODL institutions. The place of well-designed, learner-centric course materials as a crucial component of ODL cannot be overstated because they not only enrich the learning process but also empower educators to effectively deliver accurate, up-to-date, culturally sensitive curriculum. Course materials provide structure and guidance for learners. Without course materials, ODL would fail the vast majority of its self-directed learners, who would struggle to stay focused and organised without adequate guidance and resources. By integrating the right materials, education becomes more adaptable, enriched, dynamic, and responsive to the needs of open and distance learners, leading to a more fruitful learning experience. As catalysts, the use of quality course materials significantly impacts the academic performance of students. Addressing the constraints listed in this paper is imperative to maximise the potential of course materials

to improve students' academic success. Whatever model of ODL is implemented in Nigeria must take into consideration the centrality of GenAI in the production of quality course content to enhance academic success and lifelong learning.

Recommendations

1. More educational multimedia and digital technologies should be incorporated into course materials to further optimise learning outcomes and realise academic success.
2. Adequate capacity building should be provided for ODL practitioners, especially in AI and ICT, because material design and delivery are largely driven by AI and ICT. Such investments will largely reduce the incidence of team members physically handling manuscripts, and this will, in turn, enhance document safety and security.
3. The Federal Government of Nigeria and the industry should assist the university in providing adequate funds to produce quality course materials. Improved funding will translate to better remuneration for those engaged in course material production to avoid lethargy, which can cause task abandonment.
4. The university management should periodically organise training for course team members to expose them to global best practices in the industry.
5. As the leading institution in open, distance, and eLearning in Africa, NOUN should initiate collaborative course material development with other leading ODL institutions as a way of producing materials in programmes that are relatively new in the country, which do not have sufficient technological infrastructure and learning environment to develop in-house.

References

Adewale O. (2025). "Introducing multimedia to enhance interactivity and engagement of course materials." https://elearn.nou.edu.ng/mod/lesson/view.php?id=263907

Agbu, J. F. (2015). "Assessing technostress among open and distance learning practitioners: A comparative study." *ASEAN Journal of Open and Distance Learning*. Vol. 7, No. 1.

Au, O.T.-S., Li, K. & Wong, T.M. (2018). "Student persistence in open and distance learning: success factors and challenges." *Asian Association of Open Universities Journal*, 13(2), 191-202. https://doi.org/10.1108/AAOUJ-12-2018-0030

Bååth, J. A. (1986). "Learning by written material: Psychological aspects with particular implications for correspondence education." *Epistolodidactica* 2, 8-22.

Bacia, M. K. (2024). "Role of instructional materials in students' academic performance." *Research Invention Journal of Current Research in Humanities and Social Sciences* 3(2):24-27.

Barretoa, M., Victor, C., Hammond, C., Eccles, A., Richins, M. T., & Qualter, P. (2021). "Loneliness around the world: age, gender, and cultural differences in loneliness." *Personal. Ind. Diff.* 169:110066. doi: 10.1016/j.paid.2020.110066

Bender, T. (2023). *Discussion-based online teaching to enhance student learning: Theory, practice and assessment* (Taylor & Francis).

Brahmawong, C. (1988). *The Techniques of Writing Distance Learning Text*. Japan: National Institute for Multimedia Education.

Commonwealth of Learning (2022). "Status of open and distance learning in Nigeria." DOI: https://doi.org/10.56059/11599/4070

Commonwealth of Learning (2020). "Open and distance learning: Key terms and definitions." http://oasis.col.org/handle/11599/3558

Croft, N, Dalton, A. & Grant, M. (2010). "Overcoming isolation in distance learning: Building a learning community through time and space." *Journal for Education in the Built Environment*, 5(1), 27-64, DOI: 10.11120/jebe.2010.05010027. https://doi.org/10.11120/jebe.2010.05010027

Fang, B., & Broussard, K. (2024). Augmented course design: Using AI to boost efficiency and expand capacity. EDUCAUSE Review.

Gagné, R. M. (1970). *The conditions of learning*. 2nd edn. New York: Holt, Rinehart & Winston.

Holmberg, B. (2008). *The evolution, principles and practices of distance education*. Bibliotheks- und Informationssystem der Universität Oldenburg.

Igwe, U. O. (2020). "Libraries without walls and open and distance learning in Africa: The Nigerian experience." *Library Philosophy and Practice*. 4301. https://digitalcommons.unl.edu/libphilprac/4301

Inegbedion, J. O. (2025). "MCMD101Week 1: Fundamentals of ODL course material writing." https://elearn.nou.edu.ng/mod/lesson/view.php?id=165975

Jegede, O. (2010). *Reflections on Open and Distance Learning in the Developing World.* Lagos: National Open University of Nigeria.

Jegede, O. (2016). "Open and Distance Learning Practices in Nigerian Higher Institutions of Learning". Being an invited keynote address at the 3rd University of Ibadan annual distance learning centre distinguished lecture and stakeholders' forum held at the International Conference Centre, University of Ibadan, Thursday, 14th & Friday, 15th July.

Lane, S. (2022). "The role of instructional materials in teaching and learning". September 1.

Lang, J.M. (2024). The case for slow-walking our use of Generative AI. *Chronicle of Higher Education*. February 29.

Muin, N.A. (2021). "Supporting and engaging isolated language learners in open and distance learning (ODL) classes: A

comparative study between a Malaysian and an Indonesian university undergraduate student." e-Proceedings of International Conference on Language, Education, Humanities & Social Sciences (i-LEdHS2021).

Northedge, A. (2005). *The Good Study Guide*. UK: Open University.

NOUN (2009). *Course material development in open and distance learning: Training manual*. Lagos: National Open University of Nigeria.

NOUN (2009). *Course Material Development Policy*. Abuja: NOUN Printing Press.

NOUN (2016). National Open University of Nigeria (NOUN) Policy on Open Educational Resources https://www.oerafrica.org/resource/national-open-university-nigeria-noun-policy-open-educational-resources

NOUN (2024). *Policy on Course Material Review*. Abuja: NOUN Printing Press.

NUC (2024). "NUC partners Commonwealth of Learning to host graduate employability workshop." *Monday Bulletin*. https://www.nuc.edu.ng/wp-content/uploads/2024/11/Bulletin-28th-October-2024_compressed.pdf

Okonkwo, C.A. (2012). "Assessment of challenges in developing self-instructional course materials at the National Open University of Nigeria." Vol. 13, No. 2 April.

Ojo, O., Salawu, I.O. & Adedapo, A. (2023). "Effect of open educational resources on teaching and learning as perceived by lecturers in selected Nigerian universities." *Turkish Online Journal of Educational Technology*. 22(1):67-79.

Perry, W. (1976). *Open University. A personal account by the first Vice Chancellor*. Milton Keynes: The Open University.

Peters, O. (2022). "Open and distance learning amidst COVID-19 pandemic: some lessons learned and emerging initiatives." *West African Journal of Open & Flexible Learning* Special Edition: Volume 10, Number 2.

Parer, M. S. (1992). *Developing open learning courses*, (ed). Centre for distance learning, Monash University, Victoria, Australia. pp.194-195.

Rahman, M.H. (2006). "Developing course materials for open and distance learning: BOU perspective." *Turkish Online Journal of Distance Education* 7(4):55-60.

Rowntree, D. (1990). *Teaching through Self-Instruction: How to Develop Open Learning Materials.* New York: Kogan Page.

Salawu, I.O. (2018). "Open and distance learning (ODL) as a veritable tool in teacher preparation in the 21st-century Nigeria." In *Festchrift for Professor Duro Ajeyalemi* (Eds) U.M.O. Ivovi and A. O. Ogunleye, Chapter 22, pp 410-439.

Singh, P. & Rathore, S.S. (2018). "Unleashing the potential of ODL - Reaching the unreached."Nims University.http://www.scdl.net/InternationalConference/PDFS/DigitalProceeding/Full%20paper%20Pankaj%20Singh.pdf

Smart, A. *et al* (2020). *Learning for uncertain futures: the role of textbooks, curriculum, and pedagogy.* UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000374078