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ADVANCING LIFELONG LEARNING OPPORTUNITIES: THE IMPERATIVE OF INFORMATION LITERACY COMPETENCY FOR SDG-4 ACTION IN NIGERIA

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ABSTRACT
The global pursuit of Sustainable Development Goal 4 (SDG 4) emphasizes inclusive, equitable, and quality education alongside lifelong learning opportunities for all. While progress has been recorded globally, significant challenges persist, particularly in regions like Nigeria where systemic barriers hinder the integration of vital competencies such as information literacy into educational frameworks. Information literacy, a critical skill in the 21st century, is pivotal in fostering independent learning, critical thinking, and equitable access to knowledge resources. Despite its transformative potential, Nigeria faces obstacles such as inadequate infrastructure, limited teacher training, cultural diversity, and socioeconomic disparities that impede the attainment of SDG 4 targets. This review explores strategies for fostering information literacy to address these barriers, with a focus on equitable access, teacher development, and localized resources as key drivers for achieving sustainable education outcomes in Nigeria.

Keywords: Education, Information Literacy, Learning, Sustainable Development, Nigeria.

Introduction

The Sustainable Development Goals (SDGs), which took the place of the Millennium Development Goals (MDGs), are one of the objectives that have gained prominence in the context of global reform. The 2030 Agenda for Sustainable Development is an inter-governmental commitment and "a plan of action for people, planet and prosperity". It comprises 17 SDGs that are "integrated and indivisible and balance the three dimensions of sustainable development: the economic, social and environmental"; and demonstrate the scale and ambition of the new universal Agenda (UN, 2015). In the work of Tyonum (2015), sustainable development means the overall change and improvement in the society as related to the individual in progress in the social, political, religious and economic structure of the nation. A major outcome of education is sustainable development.

Central to the realization of the 2030 Agenda for Sustainable Development, education is essentially articulated as a stand-alone goal (SDG 4). The SDG4 aims to ensure inclusive, equitable, and quality education, and promote lifelong learning opportunities

for all. According to Agbedahin (2019), education is a fundamental right and a powerful tool for achieving sustainable development across sectors like health, economic development, and environmental sustainability. SDG 4 highlights education's transformative potential in addressing other SDGs, fostering sustainable societies. It has specific targets, including ensuring universal primary and secondary education (Target 4.1), equal access to vocational training and higher education (Target 4.3), and increasing the number of youth and adults with relevant employment skills (Target 4.4). Other targets focus on eliminating gender disparities (Target 4.5), ensuring literacy and numeracy (Target 4.6), and fostering global citizenship through education (Target 4.7) (ESCAP, 2022). Targets 4.A and 4.B emphasize improving education facilities and increasing scholarships for students from developing countries. Achieving SDG 4 requires substantial investments in educational infrastructure, teacher training, and policy reforms to create inclusive and equitable learning environments (Webb, Holford, Hodge, Milana & Waller, 2017). Strengthening international cooperation is essential to ensure no one is left behind in the pursuit of quality education.

Information literacy is crucial for achieving SDG 4, as it helps learners access, evaluate, and use information effectively, empowering them to engage with knowledge, make informed decisions, and contribute to society irrespective of their level of education. According to Mochizuki and Bryan (2015), information literacy enhances education quality by promoting critical thinking, particularly in relation to global issues like climate change, poverty, and human rights. It supports lifelong learning (Target 4.4) by helping individuals adapt to technological advancements and new skills, fostering self-directed learning and professional development. It also helps bridge gender and socio-economic gaps in education by offering equitable access to information (Moruf, 2020a) and ensuring inclusive, effective learning environments (Target 4.A). According to Akinyemi and Tunmibi (2024), information literacy is vital for SDG, fostering critical thinking, supporting lifelong learning, and promoting equitable access to education. Integrating it into educational curricula and policies will help transform education systems globally and empower individuals for sustainable, inclusive societies.

Lifelong learning is essential for sustainable development, enabling individuals to adapt to societal, economic, and environmental changes. It equips people with skills to tackle challenges like climate change, inequality, and technological advancement (Singha & Singha, 2024). Lifelong learning helps foster sustainable practices, improve quality of life, and reduce inequalities, contributing to SDG 4. It also promotes workforce development by enabling individuals to update skills, enhancing innovation and economic growth. Additionally, lifelong learning promotes personal empowerment, intellectual vitality, and informed decision-making, contributing to sustainable lifestyles (Benavot, Hoppers, Lockhart & Hinzen, 2022). It is crucial for achieving the SDGs, fostering adaptability, social inclusion, and global citizenship. Integrating lifelong learning into policies and curricula is key to advancing the global sustainability agenda.

Although several studies (Nongo & Ode, 2018; Onyam & Chukwu, 2022; Akinyemi & Tunmibi, 2024) captured the relevance of information literacy for the attainment of sustainable development goals in Nigeria, while none of them emphatically stressed the need for promoting specifically SDG 4. This therefore is the gap the researchers intend to fill. This review explores

the role of information literacy in advancing lifelong learning to achieve SDG 4, emphasizing its importance in fostering inclusive, equitable education and sustainable development. The paper employed a narrative review methodology, conducting a comprehensive online search of literature on information literacy, lifelong learning and SDG 4. This search utilized educational databases such as Google Scholar, LexisNexis, EBSCO, ERIC, and Science Direct. According to Moruf, Adeleke and Olaojo (2021), these databases encompass a broad range of disciplines, are supported by various publishers, and provide access to diverse academic and legal publications. Additionally, a selection of books, conference papers, and websites was consulted. The gathered literature was analyzed and presented under relevant headings with appropriate citations.

Global Context of Sustainable Development Goal 4

Sustainable Development Goal 4 (SDG 4) aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. Since its adoption in 2015 as part of the United Nations' 2030 Agenda for Sustainable Development, significant strides have been made toward achieving its ambitious targets globally and regionally. However, the progress has been uneven, with marked disparities across regions and socio-economic groups.

Globally, enrollment rates in primary education have reached record highs, with most countries achieving near-universal access. According to the UNESCO Institute for Statistics (UIS), the global net enrollment rate for primary education surpassed 90% by 2023, reflecting significant progress in improving access to foundational education (UNESCO, 2023). Additionally, literacy rates among youth have shown improvement, with gender gaps narrowing considerably in many parts of the world (UN, 2015).

Despite these advancements, challenges persist. Millions of children and adolescents remain out of school due to poverty, conflict, and displacement. UNESCO's 2023 Global Education Monitoring (GEM) report highlights that more than 260 million children and youth are still not enrolled in school, disproportionately affecting those in low-income and conflict-affected regions. Furthermore, while access to education has improved, issues of quality and equity continue to hinder the attainment of SDG 4 targets. For instance, many students fail to meet minimum proficiency levels in reading and mathematics, underscoring the need for investments in teacher training, infrastructure, and curriculum development (UNESCO, 2023).

Progress toward SDG 4 varies significantly across regions, reflecting diverse socio-economic contexts, governance structures, and levels of resource allocation.

- Sub-Saharan Africa: This region faces some of the most significant challenges in achieving SDG 4. While primary school enrollment rates have increased, the region still has the highest proportion of out-of-school children and the lowest literacy rates globally. Gender disparities also remain a concern, with girls facing greater barriers to education due to early marriage, poverty, and cultural norms (UNICEF, 2023).
- South Asia: South Asia has made notable progress in improving access to education, particularly for girls. Initiatives such as conditional cash transfers and community-based schooling programs have contributed to increased enrollment rates. However, learning outcomes remain low, and the region struggles with high

dropout rates in secondary education (World Bank, 2022).

- Latin America and the Caribbean: This region has achieved high levels of access to primary education, but inequalities persist in secondary and tertiary education. Indigenous populations and rural communities often face barriers to education, highlighting the need for targeted interventions (ECLAC, 2022).
- Europe and North America: These regions have made significant strides in achieving quality education, with high enrollment and literacy rates. However, challenges such as digital divides and disparities among marginalized groups, including immigrants and ethnic minorities, require ongoing attention (OECD, 2019).
- East Asia and the Pacific: This region has shown strong progress in education, driven by investments in technology and infrastructure. Countries like Japan, South Korea, and Singapore serve as models for high-quality education systems. However, less developed nations in the region still face challenges related to access and equity (ADB, 2023).

As a global education agenda, SDG 4 differs from both the education-related Millennium Development Goals (MDGs) and Education for All (EFA) in scope, geographical coverage and policy focus. Table 1 below highlights some of these differences.

Table 1: Global education agendas compared: Millennium Development Goals (MDGs), Education for All (EFA) and Sustainable Development Goal 4 (SDG 4)

	MDGs	EFA	SDG 4
Scope	Primary Education [children]	Basic Education [children, youth & adults]	Basic Education; Post Basic Education & Training; Lifelong perspective
Geographical coverage	Low-income countries Conflict-affected	While universal in intention, in practice it focused on lower-income countries	Universal agenda for all countries regardless of income level and/ or development status
Policy focus	Access to and completion of primary education for all	Access to quality basic education for all	Access to quality basic education for all; + Equitable access to post-basic education & training; + Relevance of learning for both work and 'global citizenship

SDG 4 represents a transformative vision for global education, while progress has been made in many areas, significant challenges remain, particularly in accessibility, quality, and inclusivity. These challenges threaten the realization of SDG 4 by 2030 and highlight the need for targeted and coordinated efforts to address disparities and inefficiencies in global education systems.

- **Accessibility**: Access to education remains a critical challenge, especially in low-income and conflict-affected regions. According to UNESCO (2019), over 260 million children and youth worldwide are out of school, with the majority residing in sub-Saharan Africa and South Asia. Factors such as poverty, geographic isolation, and armed conflict significantly hinder school attendance. In rural and remote areas, the lack of infrastructure, including schools, roads, and transportation, exacerbates barriers to

education. Additionally, emergencies such as pandemics and natural disasters further disrupt access to education, disproportionately affecting vulnerable populations (UN, 2015).

- **Quality**: Ensuring the quality of education is another pressing challenge in achieving SDG 4. While enrollment rates have increased globally, learning outcomes have not kept pace. Many students fail to achieve basic literacy and numeracy skills, even after several years of schooling (UNESCO, 2023). Contributing factors include insufficient teacher training, inadequate teaching materials, and overcrowded classrooms. In many low- and middle-income countries, teachers lack the necessary qualifications and support to deliver effective instruction, resulting in significant learning deficits. The disparity in quality is further exacerbated by the digital divide, as access to modern educational technologies and online learning resources remains limited in under-resourced regions (OECD, 2019).
- **Inclusivity**: Inclusivity in education is central to achieving SDG 4, yet significant gaps persist. Marginalized groups, including girls, children with disabilities, and those from ethnic minorities, continue to face barriers to education. For example, gender disparities in education remain pronounced in regions such as sub-Saharan Africa and South Asia, where cultural norms and economic constraints limit girls' access to schooling (UNICEF, 2023). Similarly, children with disabilities often encounter physical, social, and institutional barriers that prevent their full participation in education systems. Language barriers and a lack of culturally relevant curricula further exclude indigenous and minority populations, undermining efforts to create equitable and inclusive learning environments (UNESCO, 2023).

Tackling these challenges requires a multifaceted approach. Governments and stakeholders must prioritize investments in educational infrastructure, teacher training, and curriculum development to enhance accessibility and quality. Strengthening policies that promote inclusivity, such as providing scholarships for marginalized groups and implementing disability-friendly school designs, is essential. Additionally, fostering international cooperation and leveraging technology can bridge learning gaps and create more equitable opportunities for all learners.

Information Literacy in Education

Information literacy is defined as the ability to identify, locate, evaluate, and effectively use information for problem-solving and decision-making (Sample, 2020). In educational systems, this competency plays a pivotal role in fostering critical thinking, enhancing research skills, and empowering learners to navigate the vast information landscape of the digital age. It is not merely a technical skill but a foundational framework that equips students with the tools to engage meaningfully with knowledge across disciplines.

The role of information literacy extends beyond academic success. In primary and secondary education, it supports students in developing analytical skills essential for understanding and interpreting diverse sources of information. At the tertiary level, it underpins research activities, enabling students to conduct scholarly inquiries and produce evidence-based arguments (Howell, 2021). Information literacy also contributes to lifelong learning by preparing individuals to adapt to rapidly evolving information environments and societal challenges.

Moreover, information literacy fosters equitable access to education by bridging the

gap between information-rich and information-poor environments. By integrating information literacy into educational systems, institutions can address disparities in access to resources and provide students with the competencies needed to participate in a knowledge-based economy (UNESCO, 2019). For instance, teaching students how to critically evaluate online content is increasingly essential in combating misinformation and promoting informed citizenship. In addition, the integration of information literacy enhances interdisciplinary learning. As information becomes more interconnected, the ability to synthesize data from various fields becomes critical. Information-literate students are better equipped to approach complex global issues, such as climate change and public health, with a multidisciplinary perspective (Reddy, Sharma, Chaudhary, Lolohea & Tamath, 2022). Thus, the definition and role of information literacy underscore its transformative potential in shaping educational systems that prepare learners for the challenges of the 21st century.

Lifelong Learning and Information Literacy

Information literacy is a cornerstone of lifelong learning, enabling individuals to continuously acquire, process, and apply knowledge throughout their lives. In a rapidly evolving global landscape, characterized by technological advancements and complex societal challenges, the capacity to effectively manage information has become indispensable. Information literacy supports lifelong learning by equipping individuals with the tools to adapt to changing environments, engage in self-directed education, and actively participate in personal and professional development (UNESCO, 2019).

One of the primary ways information literacy facilitates lifelong learning is by fostering autonomy in information-seeking behavior. Learners with strong information literacy skills can independently identify their knowledge gaps, locate relevant resources, and critically evaluate the credibility of information. This self-sufficiency is crucial for navigating diverse learning contexts, whether in formal education settings, workplace training programs, or informal learning experiences (Howell, 2021).

Moreover, information literacy empowers individuals to engage with digital learning platforms and online educational resources. As digital technologies increasingly dominate the educational landscape, the ability to discern and utilize quality online content has become essential for accessing lifelong learning opportunities (Anthonysamy, Koo & Hew, 2020). By enhancing digital competencies, information literacy bridges the gap between learners and the vast array of knowledge available in digital formats. Additionally, information literacy promotes equity in lifelong learning by addressing barriers to access and inclusion. For marginalized populations, such as those in rural or low-income settings, the integration of information literacy into community programs can help reduce disparities in educational attainment. For example, training programs that teach individuals how to use public libraries, online databases, and open-access journals expand opportunities for lifelong learning, regardless of socioeconomic status (Abumandour, 2020). In essence, information literacy serves as the foundation for lifelong learning in an information-rich world. By fostering critical inquiry, adaptability, and self-directed learning, it enables individuals to thrive in dynamic and complex environments, contributing to their personal growth and societal well-being.

Role of Information Literacy Competencies in Achieving SDG 4 Targets

Information literacy competency is a skill required to navigate the global information age. In fact, information literacy competency is the critical resource in the 21st century that guarantees life-long learning. The concept of information literacy and competency has been interpreted in various ways since the early seventies, and terms such as study skills, research skills, library skills, bibliographic instruction among others (Moruf, 2020b). The need for information literacy has been advanced from the acquisition of skills that enables users to locate and use information to include the empowerment and enhancement of personal and societal development. Through information literacy instructional programmes, individuals' minds are opened and inspired to understand SDG 4 vision because the mind is the centre point where progress originates.

Information literacy benefits for a society cannot be overemphasized as it benefits learners, educators, organizations, individuals and other components of the society including families. Information Literacy encompasses a wide range of individual functionalities, each of which can be observed and measured on a scale of competency – beginner, intermediate and advanced. Reddy et al. (2022) describe information literacy as an important competency needed for success in knowledge-based environment. A literate person knows when information is required and can also identify the category of information required before searching, identifying, locating and evaluating its content to ascertain its usefulness in meeting the information need of the matter at hand. The importance of information literacy competency in terms of benefits to learners, organizations, and human resources in achieving SDG 4 can be summarized below:

- Greater independence and authenticated learning for students, instead of depending on their teachers to meet their information needs.
- Improved access/connection to information to aid the process of research
- Enables employees to source for the most current and authoritative information that would enhance their productivity.
- Time saving with improved research capability
- Improved quality of information outputs and effective sharing of information
- Improved information flow which increases return on quality education
- Quality use of existing resources
- Enhanced employability through transferability of information skills to work-based context
- Improved individuals' confidence and ability to learn independently
- Increased ability to think critically, interpret information and make informed judgments.

With the aforementioned, information literacy education is therefore needed by all and sundry to build complete individuals in a society who are conscious of their information environment, recognises those pertinent issues related to Sustainable Development Goals. Different outreach programmes both formal and informal (adult literacy classes and workshops) that teach, sensitize, educate, empower and build lifetime spirit of sustainable development as to what, where, when, and how to tackle the key issues in achieving SDG 4 should be improved.

Barriers to Integrating Information Literacy towards SDG 4 in Nigeria

Information literacy instruction is considered as parts of the challenges affecting quality education in Nigeria, the contributing factor to the challenges is the approach towards developing effective policies for information literacy instructions in our educational system which should pervades all levels of education. Other barriers include but are not limited to the following:

- The perceived newness of information literacy instruction and inadequate exposure of library users to information literacy.
- Pedagogy of information literacy instruction has been largely neglected in Nigerian education system. It is only made compulsory at the tertiary level of education where it is offered as a general library course and taught once throughout students' academic year. Information Literacy (IL) must not be seen as standing alone, as if it were some arcane technical subject that could learn and then forget about, there is no "upper limit" to literacy because it is a continuum, more like a voyage that must be undertaken over one's lifetime (Horton, 2008; Moruf, 2021).
- Inadequate modern infrastructure in most government owned libraries that can compete with technological advancement distracting people from using libraries. Many schools, particularly in rural areas, lack internet connectivity, computers, and up-to-date libraries, making it difficult for students and educators to engage with information literacy initiatives.
- Inadequate funding of libraries and information centres.
- Paucity of libraries and information centres at the state and local levels to educate and promote literacy programmes through provision of adequate and relevant information materials that will meet the information needs of their users.
- Lack of skills to explore the different information systems and technologies available, which include information seeking strategies.
- Inadequate human resources to handle information literacy training because there are few instructors who are professionals which affect mode, timing and scheduling of the information literacy programme leading to an imbalance in the development. Many teachers in Nigeria have not received adequate training in information literacy skills or the pedagogical approaches necessary for integrating these skills into curricula hence, the limited awareness and capacity of educators to teach information literacy.
- Cultural and linguistic diversity presents another obstacle. With over 500 languages spoken across Nigeria, delivering information literacy education in ways that resonate with diverse linguistic and cultural contexts can be challenging.
- Poor reading culture of vast number of Nigerians. Otache (2020) attributed the low level of reading habits by multi-varied factors and these factors include: change in Nigerian value system, economic hardship which is prevalent in many homes, astronomical prices of books and other information materials as well as cost of publishing books, which is very high today.
- Socioeconomic disparities contribute to unequal opportunities for acquiring information literacy skills. Students from low-income families often lack access to learning resources and environments conducive to developing these skills.

Fostering Information Literacy in Addressing Barriers to Towards SDG 4 in Nigeria

Integrating information literacy into educational systems is vital for achieving SDG 4, which seeks to ensure inclusive, equitable, and quality education for all. In Nigeria, however, various barriers hinder the effective incorporation of information literacy into learning frameworks (Adekoya, 2022). Addressing these challenges requires deliberate strategies that foster information literacy among learners, educators, and policymakers:

1. Formal Education Systems

- Incorporate information literacy (IL) into primary, secondary, and tertiary education curricula as a standalone course or embedded in other subjects.
- Train educators to integrate IL concepts into their teaching strategies.
- Strengthen school and university libraries to provide IL training programs, workshops, and access to reliable information resources.

2. Public Libraries and Community Centers

- Leverage public libraries to host workshops on basic and advanced information literacy skills for adults, especially in rural and underserved areas.
- Equip libraries with technology and internet access to teach digital information literacy.
- Partner with local organizations to deliver IL training to vulnerable groups.

3. Digital Platforms and Online Learning

- Develop and promote online courses, webinars, and tutorials on information literacy tailored to different age groups and education levels.
- Create mobile-friendly tools and apps to teach IL skills, making them accessible to people.
- Use social media to raise awareness about the importance of IL and share resources that support SDG-4 goals.

4. Partnerships with NGOs and International Organizations

- Work with organizations like UNESCO, UNICEF, and local NGOs to implement IL programs focused on lifelong learning and sustainable development.
- Secure funding from international development agencies to establish IL infrastructure and programs in Nigeria.
- Organize events that bring together policymakers, educators, and community leaders to discuss strategies for advancing IL competencies.

5. Workplace and Professional Development Programs

- Encourage companies to include IL training in their employee development programs, emphasizing the importance of critical information usage in decision-making.
- Partner with associations in different fields to deliver sector-specific IL training.
- Establish centers that offer continuous learning opportunities, focusing on IL for growth.

6. Government Policies and Initiatives

- Develop policy framework integrating IL into national education development strategies.
- Launch nationwide campaigns to promote the importance of IL in achieving lifelong learning and SDG-4.

- Invest in ICT infrastructure to support IL initiatives in rural and underserved areas.

7. Collaboration with Academic Institutions

- Regularly organize IL workshops for students and academic staff to foster a culture of lifelong learning.
- Encourage research on the impact of IL on education outcomes and sustainable development in Nigeria.
- Promote the use of free and openly accessible learning materials to advance IL.

8. Grassroots Engagement

- Train community leaders to act as advocates, helping their communities to apply IL skills.
- Develop IL materials in local languages to make them accessible to non-English-speakers.
- Foster peer-to-peer learning groups where individuals can share knowledge and resources.

9. Media and Entertainment

- Use TV and radio to broadcast IL lessons, reaching a wider audience in rural areas.
- Incorporate IL themes into stories, dramas, and other entertainment formats to engage the public in an informal learning setting.

Conclusion

Addressing the barriers to integrating information literacy in Nigeria's education system is essential for achieving the objectives of SDG 4. The success of such initiatives requires a holistic approach that combines investment in technological infrastructure, capacity-building for educators, and the development of culturally relevant materials to ensure inclusivity and equity. Leveraging public-private partnerships and implementing targeted policies to reach underserved communities will further enhance the impact of information literacy programs. By empowering learners and educators with the necessary skills and resources, Nigeria can not only overcome its educational challenges but also contribute meaningfully to the global advancement of SDG 4.

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