
Understanding the Relationship between Lifelong Learning and Sustainable Development as a System for Better Attainment of the Goals

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Abstract

Education's contribution to achieving SDGs appears ineffectual, perhaps for a weak framework linking both. Against this backdrop, this paper proposes a conceptual framework labelled Lifelong Learning for Sustainable Development Goals, LLLnSDGSy, which indicates that each of the childhood education, youth education and adult education is driven by interactions between and among formal, informal and non-formal learning subsystems mediated by information and knowledge; social and academic demand; media and technology components to generate output and create outcomes linked to SDGs. It is believed that reconceptualising the relationship as a system, leveraging extant national education framework, would be more rewarding as it will signify stronger interconnectivity among all of the constituents. Thus, a better course will be laid for accelerated achievement of SDGs with less friction, avoidance of multiplication of efforts and minimising wastages well as reducing cost.

Keywords: Lifelong learning, system framework, sustainable development, attainment of goals

Introduction

Implementation and achievements of the millennium development goals (MDGs) were reported to be riddled with inequalities and unevenness across regions and countries with significant gaps trailing on each issues planned to be addressed at the beginning (Ban Ki-Moon, 2015). Consequently, a follow-up development agenda with 17 goals, christened 2030 sustainable development goals (SDGs) was envisioned in 2015. As expected, the creation of SDGs is an outcome of reflection on the failures and successes of MDGs and not to unduly expand the number of goals. In other words, the SDGs tend to simultaneously and comprehensively cover identified gaps in the MDGs, address established issues in the course of execution and tackle probable future development

problems in order to put the world on the path of sustainable development following series of consultations, meetings and researches. For emphasis, a good example of prior studies done by different groups further informed the contemplation and direction of the SDGs.

It is more than a half-way through to the target date of 2030. Even so, on the basis of the 2022 world average SDG index score, already there is apprehension that many countries, especially LICs and LMICs, will not make 100 percent achievement. More so, the mid-term SDG 2022 revealed that the world has retrogressed on the SDGs, particularly on SDG 1 and SDG 8, in the last two years exacerbated by numerous and overlying health and security issues and challenges (Sachs, Lafortune, Kroll, Fuller and Woelm (2022)). The gloomy picture on the progress so far made on the SDGs calls for a rethink on the policy and action plan as well as redoubling and better coordination of efforts to redeem the time lost and accelerate progress made with an eye on less progressive countries, low-income countries (LICs) and lower-middle-income countries (LMICs), which are more susceptible.

The call also concerns national and regional educational instruments for the achievement of SDGs. More importantly, strong and positive relationship between education and development efforts is widely acknowledged. Education's potentiality to assure countries' sustainable development has been demonstrated (Kioupi and Voulvoulis, 2019; Hudima and Malolitneva, 2020) to mention these two). The transformative power of education for sustainable development is in being an instrument of a positive change in knowledge, abilities, skills, values and attitudes in order to guarantee a more enduring and just society for all (UNESCO, 2018). Perhaps, a reason why it is a standalone goal, SDG 4- ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. Furthermore, element of education appears as an underlining feature of every of the 17 goals. Target 4.7 expressly provides the connection of education to SD indices and possible contents of education for development, ESD (United Nations, UN, 2016).

Moreover, the 1948 Universal Declaration of Human Rights with other national, regional global instruments accentuates the import of education in development. For example, at national level in Nigeria, all of the Development Plans, 1968-2025; Visions 2010 and Vision 2020; and Nigerian Economic Empowerment Development Strategy (NEEDS) of 2003 reflect indispensability of education in development. So, AU Vision 2063 and the preceding ones like Africa's Priority Programme for Economic recovery

(APPER) - 1985, the Mechanism for Conflict Prevention, Management and Resolution (1993), the 2000 Solemn Declaration on the Conference on Security, Stability, Development and Cooperation, and the New Partnership for Africa's Development (NEPAD) (2001) typify regional instruments that recognise and factor-in education as formidable means for inclusive growth and sustainable development.

However, mixed research reports have been given on the link between education and sustainable development (O'Flaherty and Liddy, 2018) with the indication that school education (formal schooling) increases knowledge about the environment or sustainable development but does not necessarily result to participants caring or acting out the knowledge gained (Pauw, Gericke, Olsson and Berglund, 2015). Difficulty in establishing the link may not be far from the fact that SD is futuristic and education's influence in such circumstance is not often straight forward or different forms or types of education usually present varying patterns (Grant, 2017). Still, accepting the fact that time spent in school no matter the length, while important, is not usual enough to develop enduring attitude towards SD suggests (UN, n.d) that learning related to SD is not limited to school education but could be complemented or supplemented by non-formal and or informal learning and education across ages-children, youths and adults. Thus, it appears that inconsistent contribution of education to SD may be due to lack of coordination between and among various forms of education in the spirit of lifelong learning.

Mostly, components of learning as formal, non-formal and informal learning are seldom considered as interactive and interdependent to affect childhood, youth and adult for development nor is the relationship between educational levels-primary, secondary and tertiary- given sufficient consideration in the planning of education for sustainable development. Therefore, reframing the relationships among components of each level of education and between each level and the other in a holistic manner or better as a system, would be more rewarding as it will signify stronger interconnectivity for accelerated achievement of SDGs. This understanding will create less friction, very limited multiplication of efforts and minimise wastages. Against this backdrop, this paper proposes a lifelong learning for sustainable development goals system (LLnSDGSy) via a conceptual framework which indicates that each of the childhood education, youth education and adult education subsystems has formal, informal and non-formal learning subsystems mediated by information and knowledge, social and academic, and media and technology subsystems with interactions between and among them linked to SDGs as long range outcomes. Finally, policy implications and action plans are given.

Inherent Concepts of Framework -LLLnSDGSy

Lifelong Education (LLE) and lifelong learning (LLL) are used interchangeably in most discourse and perhaps in order to avoid argument in favour or against either (Matheson & Matheson, 1996) and so, in this discourse LLL is preferred. Nevertheless, popularisation and commencement of LLE usage precede that of LLL with the thesis on Learning to be (Faure and six others, 1972). Thereafter, the work of Delor and others in 1996 gave prominence to LLL which tends to conceive learning as the purpose of education (Torres, 2011) and possibly explains replacement of LLE by LLL in current literature. Renaming of UNESCO Institute of Education as UNESCO Institute of Lifelong Learning is for the same reason to promote LLL. Yet, its description as UNESCO's specialist resource centre in charge of adult learning, non-formal education and lifelong learning is misleading as if adult learning and non-formal education are outside the purview of LLL or LLL is not encompassing enough. Or, it is an attempt to narrow discourse on LLL to adult learning and non-formal education as perceived mostly by countries in the North (Holford, 2008). The description is rather an aberration.

As if correcting itself, a recent publication of the UNESCO (2022) defined LLL as any kind of policy designed and implemented by governments and other stakeholders to create learning opportunities for all ages (children, young people, adults and older people, girls and boys, women and men), in all life-wide contexts (family, school, community, workplace and so on) and through a variety of modalities (formal, non-formal and informal). The definition is in congruent with these three definitions. First, the European Lifelong Learning Initiative defines lifelong learning as "...a continuously supportive process which stimulates and empowers individuals to acquire all the knowledge, values, skills and understanding they will require throughout their lifetimes and to apply them with confidence, creativity and enjoyment, in all roles circumstances, and environments." (Watson 2003: 3). Second, LLL is a learning process for all seasons without ceasing covering all spectrums of knowledge, skills and values, for all generations of learners, provided through formal, informal and non-formal learning for the benefit of all throughout lifetime (Fajonyomi, 2017: 6). Third, LLL is a comprehensive, visionary, master-piece concept which includes formal, non-formal and informal learning throughout the lifespan of an individual to attain the fullest possible development in personal, social, vocational and professional life. It views education in its totality, and includes learning that occurs at home, school, community and workplace, and through mass media and other situations and

structures for acquiring and enhancing knowledge, skills and attitudes (Boshier (2007 & Preece, 2013).

Still, overtime, a third dimension designated as life-deep dimension, which concerns aspects of learning related to 'what to learn', 'when to learn', 'why and 'how to learn' which seemingly have been docile in the initial LLL, has now been integrated. This is to 'develop, promote, and synthesize theoretical and empirical accounts of learning that highlight developmental, ecological, and cultural dimensions of the process and outcomes' and provide 'powerful opportunities for promoting equity and social justice in education by understanding and leveraging temporal/developmental, spatial/contextual, and value-laden dimensions of learning (Bellis. 2017). Hence, Walters in Belanger (2015) remarked that learning could not become lifelong and life-wide without being 'life-deep' for active assimilation of knowledge and subsequent mobilisation in meeting desired needs (Medel-Anonuevo, Ohsako and Mauch 2001). The desired needs may not be far from enhancing present and future engagement in personal, political, cultural or economic development (Walters, 2010 & Fajonyomi, 2017) indicated by skill enhancement, employability, social cohesion and political stability (Dhirathiti, 2014: 771). So, the purpose of LLL, taking as series of educational activities or processes, is to foster personal and societal development over cultural, economic, political, social and technological dimensions. In Torres's (2011) explanation, LLL is not only about expanding the supply of education throughout the life of people, it also has to do with comprehensiveness, it has to do with diversification, it has to do with articulation of various systems, and it has to do with transformation, with radical transformation of the current education and school culture.

Accordingly, countries define and measure success or failure of their educational systems against the principle(s) of LLL. On this ground, Marchenoka and Tatarintceva (2010) attributed the failure of Latica's educational system to noncompliance with LLL principles. Even though it originated from the North, it has found root in the South and become a global guiding principle for educational system reform (Walters, 2011). For emphasis, virtually all countries of the world have their educational policies designed along LLL principles and alluding to its supremacy as agent of development. The discourse thus far on the components, activities and processes of LLL depict it as nothing short of a complex and interrelated system (Tindemans and Dekocker, 2020) with a reflection of dynamism, adaptability, innovation, inclusivity, connectivity and in short elements of

systems theory (Lai and Lin, 2017). A demonstration of the relationships between and among the components of LLL in connection with SDGs designed to translate policy to practice is given in the next section.

Systemising LLL and Sustainable Development Goals

The proposal is based on three related assumptions: 1). Goals of SDG and inherent targets of each goal are interrelated and interconnected with components lifelong learning. So, components of LLL and all of the goals of sustainable development with their indices are mutually reinforcing, complimentary to allow the world to be seen as a whole (UNESCO, 2002) and to have a holistic view of its challenges and address them from the prism of a system. 2). The environment, from the globe itself to immediate space outside the individual (niche), is ever changing demanding learning response in terms of knowledge, ability, skill and attitude of individual(s) to understand, adapt and live through the learning system which in turn generate outputs to contribute to what becomes of the environment- development or otherwise. These are processes that involve human and non-human resources with institutions and agencies (governmental and nongovernmental) relating together to achieve determined goal(s) as SDGs.

It is expected that there will be strong collaboration and partnerships between groups mirroring description of a Complex Adaptive Systems (Porter, 2009). 3). Moving with the changes in the environment, especially regarding regular explosion in information and communication technologies, presupposes creation of innovative learning strategies to engender effective formal, informal and non-formal learning and more particularly to address diverse learning needs of the different categories of learners, entrench equal educational opportunities and ensure no one is left behind. Besides being inclusive, it is assumed that the curriculum will be responsive and found to be a good fit between environmental demands and the response capabilities - including policy, structure and planning process warranting close relationships among stakeholders (Lai and Lin, 2017). Figure 1 illustrates discussion on consideration of the relationship between LLL and SDGs as a systemic relationship.

The Environment and Input

LLL stresses a reality that learning takes place in different learning environments which are sine qua non to development outcomes (Popescu, 2011). Precisely, there is a reversible relationship between the environment and outcome. In relation to learning, the environment is synonymous to learning community/society which generates resources or inputs as learners, facilitators,

administrators, money and technologies which are processed to bring about a change in attitude, abilities, knowledge and skills in order to produce desired outcomes. Time and energy of all individuals involved all count as inputs though look intangible they have alternative use. Again, the concept of learning community or society is not new (Edwards, Raggatt, Small, 1996) but reverberating in every discourse. More, it is not new with reference to human creation 'man is dust and unto to dust shall he return' and parables in several cultures like Yorubas (Nigeria) who fervently believe that 'parents bring a child to life but society nurtures'. That is, everything needed for de-learning, learning and re-learning, resides in the society. That is, learning environment invariably predetermines what to learn, where to learn, how to learn, why and who are involved and what role(s) they are to play as well as outcomes.

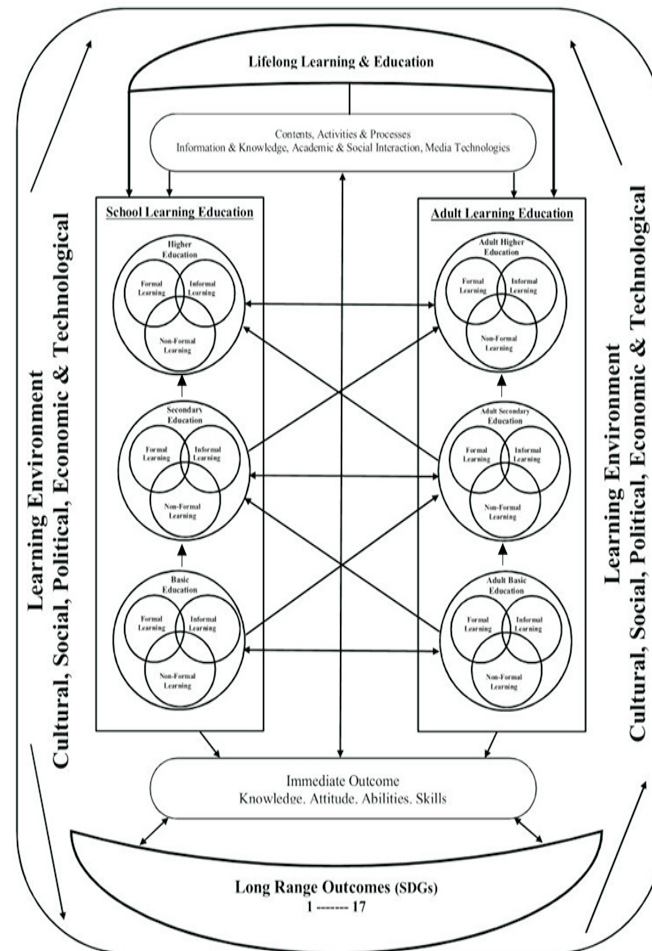


Figure 1: Systemic Relationship between Lifelong Learning and Education and SDGs

The Processes

Sequel to discussion on learning environment, LLL can be considered as an integral part of learning environment and acquired through two interrelated pathways-school learning and education (SLE) pathway and adult education and learning (ALE) pathway (See figure 1). Each pathway has three sequential learning levels, from basic education and learning (childhood education or its equivalent in ALE), secondary education and learning to higher education and learning with appropriate learning activities related to sustainable development indices. The school education and learning variant is a regular schooling with less emphasis on buildings and institutions but on quantum of offerings and knowledge, skills, abilities and values expected as products. Starting with Childhood Education including Early Childhood Education and Care which makes up (School) Basic Education, it is very right to expose children at this level to a 'measure' of knowledge on peace building, social justice, and every aspect of sustainable development indices. It is a matter of taking advantage of extant frameworks and instructional practices like role modelling, story-telling and play-way method to promote sustainable development.

One cannot but agree with the position that a well prepared childhood education programme based on learning needs of prospective learners has a huge propensity to initiate and snowball knowledge, abilities, values, attitudes and skills in sustainable development (EU, 2022). Similarly, equivalent learning and educational programmes could be fashioned out for lowly adult readers and neo literates in literacy and post-literacy classes representing the Adult Basic Education and Learning level under Adult Education and Learning strand. It is germane to note that adults are abreast of issues on sustainable development as they are usually the frontline teachers of children on most issues of life. Beyond, a strong relationship has been established between education of parents/adults and that of children and youth (Ermisch & Pronzato, 2010; EAC & FHI 360, 2016). However, in the development of ALE programmes for sustainable development for all the levels, consideration should be given to their experiences and other learning characteristics as exemplified in the various theories of adult learning from humanistic principles, psychoanalytic considerations, cognitive development charges to Behaviourism theory (Tennant, 1988). Worthy of emphasis is that education and learning at the lower level should be well articulated to serve as impetus for the success of the next higher level.

The contents of learning programmes including messages, information and knowledge to be delivered or transferred, media and technologies to be

deployed well as modes or methods should reflect learning needs and styles of learners. In addition, while the contents are tailored to SDGs, learning objectives should indicate domains of learning-cognitive, affective and psychomotor and level of learning- knowledge/comprehension, application and problem solving. The argument would be that the process might be applicable in formal and non-formal learning since they are organised unlike informal learning. But, the truth is that informal learning activities are directed at achieving certain objectives or purposes even if they are unwritten. In all, whatever the form of learning-formal, informal or non-formal it should lead to positive development in knowledge, attitude, abilities, and behaviour related to sustainable development.

It is important to note from figure 1 that learning at each level in both SLE and ALE strips could be mediated individually or interactively via formal learning, informal learning and non-formal learning. This is simply to illustrate the reality that very significant percentage of learning takes outside the wall of institution and highly structured curriculum, most especially regarding education for sustainable development (ESD). Latchem (2014) argued that both informal and non-formal modes of education constituted between 70 to 90 percent of lifelong learning while examples of both are abound with respect to ESD. Exploration of the environment by children through play has been reported (European Commission, 2022) to contribute to improvement in cognitive functions, communicative and social skills as well as to development of positive attitude towards future sustainability and SD.

So is telecast on hospitalised victims of COVID-19 has made many to believe it was/is real and to take to the practice of precautionary measures and accept to take the vaccines. The emergence of digital media has introduced innovation and expanded scope of informal learning and non-formal learning. For instance, with skills in photography acquired informally, a student took the photograph of a criminal using his phone at the scene of crime, which led to the arrest of the criminal and justice served accordingly. Besides, so much information on academic, health, security, economic and other issues is on social media for the benefit of all even though there is often the need to sieve the good from the ugly for many have been in trouble for consuming the bad. A quick observation in ending this part is that non-formal learning nor informal learning is not a monopoly of adult learning and the idea of having titles such as adult and non-formal education or learning is misnomer as non-formal learning is subsumed in adult learning.

Furthermore, figure 1 shows direction and dimension of relationship between SLE and ALE strands as well as interdependence of components within each strand. Principally, the linkages tend show that lifelong learners (knowingly or unknowingly we all belong to this class) should be able to crisscross from SLE to ALE and conversely to demonstrate spirit of camaraderie between corresponding programmes. In this wise, parallel programmes complement and supplement each other in the fulfilment of SD goal(s). There are instances when a learner would start off a programme in ALE and ended up in SLE and vice versa based on mutually accepted conditionality. Nevertheless, transfer of learners is often difficult because of unfavourable policies and programming error. SLE policies regarding transfer are usually discriminatory against ALE products as they are not flexible and riddled with stringent criteria. Besides, the two programmes may not be equivalent and so, the ground for the transaction is faulty. Therefore, for unhindered movements there would be need for policy and programme restructuring.

Outputs

Implicitly, from the discussion on inputs and processes about LLL4SDSy, at least three groups are involved including lifelong learners, sponsors (self, guardians, proprietors, governments and communities) and programme providers (public and private organisations and institutions). Accordingly, it is expected they must have divergent reasons for their involvement. A participant or learner could attend training on forest conservation just to gain knowledge or for personal satisfaction while the provider would like to see the knowledge gained translated into action such as planting trees or forming a conservation club in order to transfer the knowledge. In essence, learning outputs could take different forms. In general, outputs could be immediate-attitudinal change, knowledge gain, additional skills, increased ability and added value or long-term, which are related to the SDGs-peace building, environmental sustainability, poverty reduction, economic empowerment and the like. In the long run, the outputs are 'turned into' the environment for its betterment and sustainability.

Implications for Policies and Action Plans

Clear Understanding of concepts

The presentation clearly shows that LLL, a principal partner in the relationship is a multidimensional concept and perhaps the same for concepts (such as peace, security, and poverty) related to each of the goals. Therefore, accelerated

achievement of the SDGs through LLL, while adopting systems approach, calls for strategic thinking based on clear and consistent concepts and directions. More so, common and clear understanding of the concepts will make players in the processes to be on the same page, specifically in the course of policy formulation and implementation as well as during programming. This observation possibly explains why studies reviewed by Kioup and other (2019) on learning concepts and educational practices used in ESD observed discrepancies, incongruence of approaches and deficits in curriculum development, adopted educational strategies and policy recommendations and impact assessment. Consideration of the relationship between LLL and SDGs as a system suggests that the goals could be taken on simultaneously as against zeroing on a goal as environmental sustainability as emphasised by Germany and Sweden (Hudima and Malolitneva, 2020). Possible excuse is when underscoring interconnectivity between the SD goals. Hence, a LLL programme designed to promote economic well-being is expected to touch other aspects of SDGs.

Institutional Collaboration

One of the noticed and perhaps biggest challenges that may confront the deployment of system approach is how to develop strong linkages among diverse components within each educational strand and between the two strands of SLE and ALE. More so, it is obvious that different governmental and nongovernmental organisations, which are by no means homogenous in their modes of operations, would be responsible for the provision and running of the programmes. Therefore, it is important to build or strengthen extant strategic framework which will link these organisations together and with economic world as well as with surrounding international communities through their representatives. The condition of building strategic partnerships and linkages incidentally forms part of measurable performance indicators for the practice of lifelong learning (Henschke, 2014). The least of the benefits of being connected with international communities is to share experiences without any need to reinvent the wheel. The needed transformation may call for a review of regulations, policies, incentive and reward structures to steer all actors to take to collectively determined direction(s). Also, it may call for adjustment of provision in the light of increasing diversity, pervasiveness of ICT, shifts in labour market and technological change. On the advice of Santiago, Tremblay, Basri and Arnal (2008) as 'clients are becoming more diverse, provision needs to adapt'.

Adaptive Curriculum and Instructional Strategies

Curriculum and instructional resources deployment are learning policy translation in doable form. In the spirit and characteristics of LLL in general and LLLnSDGSy in particular, the curriculum and associated instructional strategies should be flexible, innovative and adaptive. In the character of LLL in general, curriculum development would require multidisciplinary approach (Didham, 2018 & Diemer, Ndiaye, Khushik & Pellaud, 2019) and same in this case. More, 'surprises' in recent time related to health emergencies (e.g. COVID-19), environmental challenges (e.g. recent heat waves globally), economic crises (e.g. galloping inflation), violent conflict (e.g. spiralling in the number IDPs) and so on that impinge on the activities of social and economic institutions also put pressure on everyone, children, youth and adults to acquire new skill, re-skill or up-skill and need for responsive LLL curriculum. Also, revolution in ICT world has made introduction of digital working tools to work environment imperative and become increasingly common. This in turn brings about greater need for learning through innovative and transformative strategies including digital learning using digital resources. Digital resources allow for faster updates than textbooks and offer a wider variety of sources to all learners, including those with disabilities (Wardlow, 2016). In addition, digital learning with the resources encourage self-efficacy and self-directed learning; more to the advantage of adult learners. However, adoption of diverse learning strategies but suitable to the learning needs of learners is hugely advised,

Research and Evaluation (R & E)

Recurring factor in system analysis is that of 'unity in diversity'- different components working together for their common good which is in consonance with 'the interlinkages and integrated nature of the Sustainable Development Goals' (UN, nd). As such, stakeholders are expected to collaborate in conducting R & E. Further, the R & E framework should reflect articulation-connection of the different parts in relation to the whole. For instance, SDG agenda is about policy statement and R & E may focus mostly on determining impact of related policies. In this case, the process will involve determination of the extent to which policies have achieved intended outcomes, identification of challenges, and assessment of the policies' sustainability (Barret, 2018). Since collaboration and partnership could be a ground for friction or conflict if relationship is not well defined as well as present limitations to achievement of goals, contribution(s) of each component or process to the other and to one another towards accelerating achievement of SDGS in effective and efficient manner must be examined to avoid wastages and duplication or multiplication

of efforts. Against this, participatory research in its various forms such as community participatory research (Israel, Schulz, Parker, Becker, Allen, & Guzman, 2008) and multidisciplinary horizontal research (Ingabire et al, 2014) or triangulated research is advised and for involving diverse groups including learners, administrators, sponsors, providers of different socio-economic backgrounds, both quantitative and qualitative methods should be deployed as well (Bhattacharjee, 2012; Mangal & Mangal, 2013).

Conclusion

This is a descriptive, responsive and suggestive paper borne out of concern about recent deceleration in the progress made towards the achievement of SDGs which is creating doubt as to whether nations will make hundred percent in achievement of the goals by 2030. Considering this as a clarion call this paper suggests possible changes in education system. In particular, a more effective and efficient process in accelerating achievement of the SDGs, the paper responded by prescribing LLL4SD system which is amenable to modification to suit national peculiarities. In between, inherent challenges were observed and finally implications of the discussion for policy and action plan were made.

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