



Education for Learners with Learning Disabilities during Pandemics

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Abstract: *Since the inclusion of Learning Disabilities (LD) as a category of learners with special needs, concerns have occurred over main issues such as appropriate definition, identification procedure and appropriate intervention mechanisms. Thus, in such concerns, pandemics such as COVID-19 have disproportionate impact on these learners who are already socially and academically disadvantaged. The purpose of this paper is to review relevant literature on issues and challenges surrounding learners with LD. The study ought to analyse the concept of LD as documented, analyse educational intervention mechanisms during pandemics in relation to LD and propose intervention strategies that will enhance their leaning. Integrative literature review methodology was used to systematically evaluate database, publications and internet sources to examine the emerging issues in the education of learners with LD. Literature on pandemic impacts on education was then analyzed and the relationship between the two established. The focus of the study was on low income countries: COVID-19 has revealed gaping inequities in global education with low income countries experiencing a learning crises and a deepened gap for marginalized groups, minorities and those with disabilities. The findings indicate that measures taken during pandemics such as online and distance learning do not put into consideration learners with LD who require adapted and individualized learning programs. The authors therefore identify the need for inclusive education measures at such times. They call for adapted education programs, blended approaches and support systems to ensure fairness and equity for all learners.*

Keywords: *Learning Disabilities, Inclusion, Pandemics, Intervention Mechanisms, Low Income Countries*

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1. Introduction

“No other disabling condition affects so many people and yet has such a low public profile and low level of understanding as LD”, Washington Summit 1994 (Reid et al., 1994).

Learning disability (LD) is a heterogeneous condition that is characterized by learning deficiencies, attention deficit and socio-emotional problems (Wong et al., 2011). Learners with LD require monitoring, individualized attention, motivation and instructional modification without which they achieve unsatisfactorily and are barely able to catch up emotionally, socially and financially (Borah, 2013; Kiarie, 2004).

Pandemics such as COVID-19 impact education significantly leading to closure of schools, shifts to alternative means of learning and re-organized learning schedules (UNESCO, 2020a). The effect is more severe to underprivileged learners such as those with LD who are already experiencing barriers to learning even in regular setting (Negassa, 2020). With regard to this, this study set out to: 1) Analyze the concept of LD as documented in existing literature, 2) Describe education measures taken during pandemics in the context of learners with LD and 3) Propose intervention mechanisms to improve learning outcome of learners with LD during pandemics.

1.1 Statement of the Problem

The salient and distinct features of individuals classified as having LD makes it one of the most complicated category of disabilities to deal with. They also require dynamics of teaching and learning. Evidence shows that children with LD has a cycle of failure which begins early in their academic life. They begin on a frail start and fail behind more and more each year as their problem becomes compounded (Westwood, 2001).

They might require some instructional interventions that contradicts those employed during pandemics. Their learning climate is characterized by appealing of multiple senses, personalized instructions, peer observation and prompting (LDRFA, 2014). Mechanisms employed during pandemics such as home-schooling and online learning may therefore lack the favorable learning environment for these learners (Ngwacho, 2020).

1.2 Significance of the Study

Learners with LD may not be able to cope with the many challenges and therefore perform poorly and develop low self-esteem. With the shift to distance learning and the standardized assessment, they are likely to be the main losers of the system. During this COVID-19 era,

many researches have been conducted on its influence on education in general. However, to ensure equity and fairness for all, intervention for those with special needs is paramount.

1.3 Theoretical and Philosophical Framework of the Study

This theoretical study is grounded on the Equal Opportunity Theory by Mithaug (1996) that states that every member of the society deserves an optimal chance to self-actualization. He emphasizes that even though the individuals might have self-determination, there are personal, social and economic circumstances that may be beyond their control denying them the capacity and opportunity to reach their target. This applied in education implies that in order to accomplish the mission of *education for all*, individual needs have to be met to unleash their potential. Shields et al. (2017) notes that individuals should face only the obstacles of their own choice. Education system should be organized to ensure equality of opportunities, provision of compensatory support and resources for those with genetic and background disadvantages (Arneson, 1999; Duncan & Richard, 2011).

Pandemics lead to unexpected educational changes that trigger inequalities in education delivery (Ngwacho, 2020). The inequalities are caused by social luck (e.g. Poor background) or natural luck (genetic disadvantages) (Shields et al., 2017). To ensure fairness and justice, deliberate compensation should be done to overcome these challenges. Learners with LD who fall under the category of natural luck, face the risk of discrimination through distance learning and hence the need of intervention mechanisms to ensure equal chance towards self-actualization.

2. Research Methodology: Integrative Literature Review

This research employs integrative literature review methodology to look at secondary data materials related to LD and pandemics. Integrative literature review generates new perspectives and frameworks by reviewing, critiquing and integrating existing literature (Torraco, 2016). He maintains that literature review is gradually picking momentum as a research methodology to address topics that are experiencing rapid growth in literature and therefore need a review to synchronize. It also helps where there is a discrepancy between literature and practice to bring more clarity. Cooper (1988) clarifies that literature review can be used to update existing literature as the factors surrounding the topic of interest evolve.

Beyond reporting on existing literature, the author adds value and creates another perception on the topic of discussion (Torraco, 2016). Authors also weave

together elements and ideas from various sources or topics hence re-conceptualizing them (Kornelakis, 2014). It is with this view that the authors of this study integrated the research on pandemics and LD to re-conceptualize educational provision during pandemics to maximize quality accessibility for all. During this era of covid-19, many researches have been conducted on its impact on education (e.g. Daniel, 2020; Reimers & Schleicher, 2020; Batubara, 2021; Al Lily et al., 2020; Basilaia & Kvadze, 2020). As most of them focus on education of a general group of learners, this study focuses on LD, a condition affecting many learners but largely ignored (Reid et al., 1994). This integrative literature review therefore scrutinize these two emerging topics (learning disabilities and pandemics) with the aim of constructing an education framework significant to the current and future pandemics.

2.1 The Concept of Learning Disabilities

Since the inclusion of LD as a category in the Education for All Handicapped Children Acts (PL 94-142: 1975), concerns have been raised over several issues which includes search for appropriate definition, appropriate identification procedure and the appropriate mechanisms for catering for these individual needs, especially in the academic sphere.

According to the Individuals with Disabilities Act (IDEA), a learning disability, is a disorder in one or more of the basic cognitive abilities involved in understanding or using spoken or written language. The National Joint Committee for Learning Disabilities defines LD as a generic term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities (NJCLD, 1987). Learning Disabilities Association of Ontario, refers to it as a variety of disorders that affect the acquisition, retention, understanding, organization or use of verbal and/or non-verbal information resulting from impairments in one or more psychological processes related to learning or abilities essential for thinking and reasoning (LDAO, 2001). Because of the heterogeneity of this category, an ideal definition would mean defining them separately based on their needs to ensure intervention is planned and done differently (Lyon et al., 2002). This is to mean that learners with extreme arithmetic problems are not given intervention meant for those with reading problems (Fletcher et al., 2004).

The identification of LD is normally based on two compelling reasons; 'unexpected learning failure' and 'specific learning failure' (Kavale, 1987; Fletcher et al., 1995). However, the determination and measure of these 'failures' has been a source of controversy among researchers and practitioners (Fuchs et al., 2003). The common use of IQ and achievement test vary in prevalence rate, computation and administration criteria

(Scruggs & Mastropieri, 2002). The IQ and achievement tests as methods of identification have been criticized to be 'label oriented' (concentrating on labelling more than intervention) and 'wait-to-fail' (the student perform poorly over a long period of time before obtaining the achievement scores) methods (Fuchs et al., 2003). Other identification problems include: over identification (this is partly as a result of problems in definition) (Lyon et al., 2001); variability, Finlan (1992) observes that the identification rates varied in various states and there was no employment of a specific discrepancy requirements; specificity in the sense that individuals with LD cannot reliably be distinguished from individuals with general low achievement (Fletcher et al., 1992). The Responsiveness-to-Intervention (RTI) Model has gained popularity as an alternative to the IQ tests (Dickman et al., 2002; Donovan & Cross, 2002). This method begins with a general intervention where regular instructions are provided and progress monitored. If the learner fails the task, another similar but modified test is given and progress monitored. If they show difficulties, they are recommended for special evaluation and education (Donovan & Cross, 2002; Speece & Case, 2001).

Despite the controversies of definition and identification, learners with consistent and specific underachievement require intervention to boost their achievements. Westwood (2001) suggest that the primary aim of identifying and teaching learners with difficulties is to help them to be more confident, effective and self-regulated. Fuchs et al. (2003) suggest that,

"...educators may identify children as LD if the children receive appropriate learning experiences for their age and ability and still do not achieve commensurate with their age and ability in oral expression, listening comprehension, written expression, basic reading skills, reading comprehension, mathematics education, or mathematics reasoning." (p. 158).

Equipping teachers with identification skills will not only help in identification but also prompt intervention in order to improve educational and social outcomes of these learners.

Learning disability has five major categories; dyslexia (affects reading and related language processing skills), dysgraphia (affects writing and fine motor skills), dyscalculia (affects ability to understand numbers and Mathematic skills), auditory processing disorder (difficulty in recognizing and interpreting sounds) and nonverbal learning disability (affects the skills to interpret body language and may have poor coordination) (IDEA, 2004; Learning Disability Association of America (LDA), 2017). According to Lyon (1996), learning disabilities co-occur with one another and an individual can have several academic deficits. This is worsened when this is accompanied by social, emotional or behavioral skills deficit. Graham et al. (2017) observes that 60% of learners with disabilities

fail to achieve basic writing levels with the biggest percentage being those with LD. Writing is a combination of cognitive and motor skills and the coordination of these becomes a challenge to these learners (Graham & Harris, 2000). Secondly, learners with LD has weakened memory skills hence their ability to encode, store, retain and recall information and experiences is lowered (Swanson et al., 2013). This greatly affects their performance as information stored in the memory helps link new information through association. Thirdly, they encounter problems in acquiring basic skills such as phonological awareness and basic arithmetic (Shankweiler et al., 1996). This translates to delayed acquisition of writing and reading skills. Cognitive challenges are the primary areas of concern but along comes behavioral and social challenges. Learners with LD are at risk of developing behavior that challenge and this brings a significant impact to their well-being and quality of life (Hastings et al., 2013; Denne et al., 2020). The behavior that challenge is socially unacceptable behavior that may be verbal (e.g. offensive language and shouting), nonverbal (e.g. inappropriate facial expression and deliberate silence) and physical (e.g. over eating and physical intimidation). They may also display social maladroitness, immaturity, low tolerance to others, illogical reasoning before taking actions and low frustration tolerance (LDA, 2014)

Regardless of the type of learning disabilities, these learners experience a variety of academic challenges that in many times are misinterpreted to mean lack of interest or laziness (Runo, 2001). The aftermath of these challenges is lack of academic confidence, low self-esteem and demotivation (Butler & Schnellert, 2015).

The challenges of learners with LD are intensified by the fact that many countries are still striving to achieve quality education for all (Madani, 2019; Hossain & Hickey, 2019; Lockheed & Verspoor, 1991). Challenges related to cost and effectiveness including the need for curriculum modification, preparation and motivation of teachers, provision of learning materials and general issues on social background have been noted (Hossain & Hickey, 2019). This is worsened by systematic failures and gapping crises in policy formulation and implementation (Hickey & Hossain, 2019). For instance, the developing countries are still struggling to achieve universal education access and completion (Artiles et al., 2011). Studies in these countries show that teachers are unprepared to handle these learners, they portray the wrong attitude and/or their teaching workload does not allow them to focus on such factors as learner's motivation and self-esteem (Seboni et al., 1996; Jackson & Abosi, 2006). Because of lack of enough guidance and attention, the problem of these learners range from policy deficiency, environmental obstacles, unaccommodating teaching-learning methodologies, social maladjustment to psychological torture. Runo (2001) observes that despite it being a significant number, these children sit in a regular

classroom and occasionally referred to as slow learners, rebellious, lazy, unteachable, unfocused or careless.

2.2 Education Measures during Pandemics

Pandemics such as cholera and Plague in the 1800s, Russian and Spanish Flu, SARS in 2003 and COVID-19 have left a huge landmark in the education sector (Spielman et al., 2021; Owusu-Fordjour et al., 2015). In 2009, at least 85 countries were affected by the H1N1 virus leading to the closure of schools as a non-pharmaceutical intervention measure (Cauchemez et al., 2009). This saw World Health Organization (WHO) move influenza pandemic alert from phase 5 to 6 resulting further to review of pandemic mitigation protocols. Last year, UNESCO (2020a) reported that 87% of the world's student population have been affected by COVID-19. In a rush against the spread of such pandemics, school closure becomes a public health policy (Cauchemez et al., 2009)

School closure resulting to distance education is the main and immediate measure taken at the pick of pandemics. It serves as an effective social distancing initiative keeping off learners from the risk of contracting and spreading the influenza virus (Abuhammad, 2021). Hence, closure of schools reduces transmission and mortality by such outbreaks (Anderson et al., 2020). However, this kind of education is unready and forcefully implemented causing compromise of education (Cauchemez et al., 2009). There is potential high socio-economic cost that comes with closure of schools (Glass et al., 2006). With a destabilized economy and children at home, it becomes almost impossible to implement education policies (Inglesby et al., 2006). It is more challenging for parents who work in the frontline in the fight against the pandemics for example nurses, doctors, law-makers and researchers (Cauchemez et al., 2009). Communication on the school closure policy to the public is also a challenge as schools close reactively either triggered by increase by infections or closure by other regions.

Home schooling has also been an alternative form of learning during the Covid-19 pandemic. The concept came into form at around 19th century but only gained popularity in the late 20th century (Bauman, 2002). Many parents considered it more efficient and individualized with less distractions and social disturbances like bullying (Olatunji, 2017). However, critics argue that the lack of social contact may lead to poor social skills and parents may not have all the skills required to mold an all-round child (Belfield & Levin, 2005). Although home schooling is traditionally an individual choice, it becomes a survival tactic during pandemics as homes becomes the schools and parents the teachers. A study conducted on the experiences of home schooling during Covid-19 reported more negative experiences than positive ones (Thorell et al., 2021). Parents reported cases of domestic conflicts, less

motivation, worry and social isolation. The advance effect is the increase of inequalities as the quality delivered will depend on numerous factors that surround the home background and surrounding community (Brooks et al., 2020). The effectiveness of parents taking up the role of teachers will depend on their level of education. It will also require homes to be conducive, have access to learning materials and programs. These requirements hinder and in some cases completely prevent education progress in some areas and within certain groups of learners (Abuhammad, 2020). However, home schooling during this era has its positive effects. For instance, learners troubled by stressors such as bullying found it a relief (Fegert et al., 2020). It also has few disturbances, more flexible and less exam pressure (Thorell et al., 2021).

Just like home schooling, online learning became a strategy for syllabus coverage across all levels of education. In many cases, it was a very helpful strategy in the middle of a crises while still maintaining physical and social distancing (Allo, 2020). If well facilitated, it would improve technological and self-learning skills, parent-child interaction and form a long term basis of blending physical and digital lessons. However, numerous challenges were encountered during the implementation of online learning. For instance, Irawan et al. (2020) reports that students were bored in the first two weeks of online learning, there was anxiety for students from low economic backgrounds as parents could not afford internet connectivity and stress due to the many and not so clear assignments. Online learning was reported to be more efficient in institutes of higher learning mainly because the online systems were already established, the learners are more independent and digitalized compared to lower levels (Smart & Cappel, 2006). The experience was different for young learners; a study conducted by Dong et al. (2020) reveals that 92.7% of these learners had their first experience on online learning during the Covid-19 times. Data from parents also showed that 84.6% of these learners concentrated for not more than half an hour. The parents rejected online learning because of the economic cost, inadequate self-regulation of learners and lack of time to monitor them (Dong et al., 2020). The factors affecting online learning included economic background, internet and gadgets availability and the quality of the online programs. Although the growth rate of internet users was reported to be rapidly growing, the potential of internet is still unexploited in developing countries particularly in Africa that have an internet penetration of 46.2% as per the year 2020 (Guerrero, 2015; Internet World Stats, 2020).

2.3 Impacts of Educational Strategies during Pandemics on Learners with Learning Disabilities

The counter-pandemic strategies that are employed globally creates inequalities in the education sector. In the developing countries, the economic shock, closure

of schools and transportation system stoppage brought huge losses (Haleem et al., 2020). Lack of internet connectivity, digital technology and materials, skills and management systems made it impossible to deliver education to all (Mustafa, 2020). The situation for disadvantaged students such as those from remote areas, low socio-economic backgrounds and those with disabilities is even worse. While the learners with growth mindset quickly adjust to the changes, a large group of learners such as those with LD will require to be gauged and supported in order to benefit from the changes (Doucet et al., 2020). They may experience confusion, psychological and emotional distress that will hinder their productivity (Petrie, 2020).

Closure of schools was the first and key measures taken globally to ensure social distancing and hence stop the spread of the virus. Due to change in learning environment and lack of face-to-face interactions, learners focus was distracted (Sintema, 2020). They also required a learning environment that will support them not only academically but also socially and emotionally (Liu, 2020). Physical isolation has led to fear, uncertainty and distractions among children (Buheji et al., 2020). Fegert et al. (2020) notes that children with neurodevelopmental disorders and mental health problems are at risk of regression during and after the pandemic. Vulnerable learners associated with mental and behavioral problems have encountered the strongest negative effect portraying inattention, aggression and irritability (Loades et al., 2020).

Measures such as home-schooling and online learning, which are suddenly and almost forcefully taken compromise the standards of education (Al Al Al Lily et al., 2020). Learners with LD require a variety of pedagogic approaches including individualized attention, team learning, tactile activities and extrinsic motivation to maintain their attention (Rasugu, 2010). Unfortunately, online learning and home schooling are limited in terms of approaches and this limits the achievement of these learners.

The shift to digital learning has caused a digital gap that has affected vulnerable learners and no compensation for those with disabilities (Ngwacho, 2020). As reported in April, 2020 by United Nations Educational, Scientific and Cultural Organization (UNESCO), 56 million learners most of whom are in developing countries do not have access to internet (Abidjan, 2020). Learners who require persistence and constant follow-up experienced a long time with no education and therefore a major set-back to their progress.

Moreover, the assessment and evaluation done during this time may not be considerate to disadvantaged learners who will require guidance, modification and conducive mental and physical state for maximum output (Basilaia & Kvavadze, 2020; Sahu, 2020). The after-pandemic-assessment will also be challenging and unfair to these learners as they have already encountered formidable learning hurdles.

3. Possible Intervention Mechanisms for Learners with Learning Disabilities during Pandemics

Although children are reported to be less vulnerable to pandemics such as COVID-19, attention needs to be paid to their academic, social and mental needs (Aishworiya & Kang, 2021). Some key intervention mechanism will include:

Pandemics integration in Emergency Education

Policy: emergency education came to existence at around 1900 as a humanitarian intervention after an increase in organized violence (Kagawa, 2005; Tawil, 1997). It is the fourth pillar in the humanitarian aid after food/water, shelter and health care (Machel, 2001). UNESCO (2000b) identifies barriers during emergencies such as limited access to schooling, poverty, marginalization and disability. Although emergency education policy is meant to be a conflict sensitive education system (Kagawa, 2005), it also comes in hand during other crises. For instance, in 2018, the Kenyan government, through the Ministry of Education, established a Disaster Management Policy that would foresee education intervention in times of crises such as fires and floods (Education Sector Disaster Management Policy, 2018). The policy aims at guiding management, coordination and collaboration of education emergencies. However, such policies are limited in scope and time. They do not address global and emergency issues such as pandemics. As Ngwacho (2020) points out, there is need to update them to include emerging issues. Educational, political, economic and social investments need to be done so that policy makers and educators will have insights and experiences to avoid the instability and inequalities in education created during pandemics

Long-term plan for awareness creation: learners with LD struggle with societal judgment and negative labelling (Burke, 2008). The repercussion of this is worse if it comes from significant persons like teachers and parents. Studies show that parental acceptance of LD is a long journey and a cause of family conflicts due to cultural beliefs especially in developing countries (Taderera & Hall, 2017; Haihambo & Lightfoot, 2010; Harper et al., 2013). The shift to homeschooling during pandemics will therefore cause more tension around these learners. This is then a wakeup call for the government, educators and scholars to constantly create awareness using digital and public platforms to help change attitudes and perceptions about conditions such as LD.

Proper record keeping and follow-up: many learners with LD go through the education system without proper diagnosis and intervention while others are diagnosed in later stages of schooling (Fletcher et al., 2018). The repercussions of delayed intervention are constant underachievement, negative labelling, low self-esteem among others. Proper diagnosis and record management will ensure relevant and constant support to maximize the quality of their lives. During pandemics, the records will enhance follow-up making it possible to provide academic, social and psychological services to these learners.

Inclusive support programmes: recent studies have reported that learners with vulnerabilities did not receive the necessary support during the pandemic (Rose et al., 2020; Willner et al., 2020). Adjusted compensation programs could be prepared as part of risk management plans where these learners get relevant support. This could be through establishment of designated support centers where they can access resources such as revision materials, practical activities and extra assistance in learning and assessment.

Blended approaches: Covid-19 has been a wake-up call for the need of technologically assisted classrooms. This includes blending face to face with online and digital learning and self-coaching to help improve the learning dynamics of learners with LD to ensure they are more independent. Through online and digital lessons, the learners explore contents at their time, pace and path but occasionally make face to face interactions with the teachers for guidance and clarification (Graham et al., 2013). This will enable learners with certain needs like LD attend online and digital classes while at the same time receiving individualized attention through direct contact by teachers or qualified caregivers. Hence, measures taken during such times like pandemics will not cause culture-shock to these vulnerable learners.

Asynchronous learning: this method of learning rooted around 19th century with the aim of enhancing distance learning in the institutes of higher learning could best be utilized during pandemics. It entails a system of education, instructions and learning occurring at different place and time hence giving teachers and learners flexibility in preparation and scheduling (Daniel, 2020). A digital network is created where various electronic systems like conferences, videos and emails are utilized to form interactions, discussions and post-and-reply sections (Bourne, 1998; Wu et al., 2008). During such times like pandemics, asynchronous communities can be created through engagement of educationists to come up with different programs based on students' common strengths, weaknesses, interests and needs. As a result, a variety of programs with a common goal, while still meeting individual needs, will be provided. This will improve accessibility to the diverse learners' population, interaction between the participants, revision through the electronic archives and appropriate scheduling especially for those with special needs (Shea et al., 2003; Garrison et al., 2004).

Although this method might be strenuous and costly at the beginning, it will minimize wastage and discrimination, not only during pandemics but also in the efforts of digitalizing education.

4. Conclusion and Recommendations

Generally, learners with LD face difficulties in acquiring certain academic skills, including difficulty in acquiring mathematics, reading or comprehension skills, poor organizational skills and attention deficit. This results to secondary problems such as demotivation, low self-esteem, poor academic self-concept and the risk of lack of employment or reliable income in adult life. This is aggravated by the fact that the disability is invisible and hence little attention is given to it in terms of intervention and research.

With the global crises going on, education systems across the world have suffered major setbacks forcing countries to adjust to emergency measures. Unfortunately, due to the urgency of the task, such measures cause a lot of inequalities disadvantaging vulnerable learners particularly those with intellectual and learning disabilities. Learning materials, methodologies and digital platforms were rarely adapted to meet the specific needs of these learners. In addition, the parents and care givers were not skilled to facilitate home schooling.

This article draws lessons for the future. It highlights the need to address the deficits in education system to ensure general transformation into inclusive education. It also calls for proper record keeping for learners with disabilities to enable proper programming and intervention at all times. Naturally, so much focus is on the present but some energy need to be re-directed to the future.

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