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Policy strategies for effective implementation of inclusive education in Kenya

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Educational frameworks mandate schools to adopt, design and implement strategies that support inclusive education. Despite the inclusive education policy, disability remains a major course of exclusion in learning institutions. The paper discusses the impact of school strategies in overcoming physical barriers that hinder the implementation of inclusive education. The actual sample constituted 151 respondents. The data were collected using questionnaires to identify views from 100 teachers teaching learners with disabilities, interviews from 11 learners with disabilities to discuss personal experiences on physical barriers and 5 focus groups discussions with non-disabled learners learning in the same classroom with learners with disabilities. The study was guided by Social Model of Disability and adopted a mixed method research design. Quantitative data were analyzed using inferential statistics. The ANOVA and t-test were done to test the study hypotheses. Qualitative data were organized by developing codes, then categorized into themes and presented in a narrative form. Linear regression was carried out to check the linear relationships between the variables. The study established the school strategies were not anchored in overcoming physical barriers that hindered the implementation of inclusive education, with various challenges affecting the strategies. For this reason, learners with disabilities have to adjust to get the needed education or drop out of school. Therefore, the study concluded that ineffective school strategies contributed to lack of overcoming physical barriers and this negatively impacted the implementation of inclusive education in schools. School transformation founded on clear inclusive education vision and philosophy, policies and inclusive strategies are necessary to overcome physical barriers hindering the implementation of inclusive education.

Key words: Practices, policy, inclusion, school strategies, physical barriers.

INTRODUCTION

Creating inclusive schools remains a major challenge that faces the education systems worldwide (Mitchell, 2015).

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An all-embracing education remains a multi-layered and challenging issue as the development of inclusive practices in schools is not well understood (Anastasiou and Kauffman, 2012; Winzer and Mazurek, 2017).

Inclusive education affects not just in principle and the nature of education provided for students with disabilities, but it calls into cross-examining the broader aims of education, the purpose of schools, the nature of the curriculum, methods of assessment, and schools' accommodation to diversity. The way in which regular schools respond to students with disability can be a measure of quality education for all students (UNESCO, 2015). Weber and Ruch (2012) maintain that a good school is good to all students and labours for the success of all learners. This calls for a need to modify school strategies and the environment to meet learners' diversity (Agarwal and Chakravarti, 2014).

The notion of inclusion dates back to the 20th century, with many countries struggling to accept and advance the education for students with disabilities. The movement towards inclusive education for learners with special learning needs began in the 1960s. The United Nations has made influential declarations regarding inclusive education, such as the Convention against Discrimination in Education (1960) that mandated persons with disability to access education without discrimination. The declaration on the Rights of Disabled Persons (1975) guaranteed the respect and dignity of the persons living with disability and the Convention on the Rights of the Child (1989) endorsed the right of every child. Similarly, the World Conference of 1990 (Jomtien Declaration) in Thailand, set goals of Education for All (EFA), which was reaffirmed in the Dakar Framework of 2000 in Senegal. Consequently, the Salamanca Statement and Framework of Action on learners with disabilities in Spain (UNESCO, 1994) approved the norms of inclusive education and gave a key motivation for inclusion. The Salamanca Statement is possibly the most momentous international manuscript in the field of special education (Budlender, 2015). The major recommendation of Salamanca Statement was that every child with special learning needs is entitled to access learning in a regular institution. The governments were required to give priority on their policy, legal and budgetary provision to restructure the education system to cater for learner diversity (UNESCO, 2015).

Subsequently, there has been considerable efforts by many nations to work on their educational policies and practices towards inclusive education, although questions arise on its efficacy and efficiency (Kalyanpur, 2014; Mukhopadhyay, 2015). Although several countries' legislations and policies appear to be committed to inclusive education, practices in schools may not meet this rhetoric (Ashwini et al., 2015). In USA, for example, one of the painful policy demands to challenge American education was the placement and aiding the learners with disabilities in the best inclusive setting, as stipulated by the Individuals with Disabilities Education Act (IDEA) of 1997. Although IDEA mandates educating students with disabilities in the least restrictive environment, students with disabilities in public schools located especially in poor or urban areas, have difficulty navigating unmodified school facilities due to the high cost of modification. The dominant issues hindering teachers to teach inclusively include attitudinal barriers and lack of possessing the skills to implement inclusive practices and strategies (Sharma and Michael, 2017).

The evidence underpinning inclusive education in African countries is weak and fragmented (Howgego et al., 2014). Inaccessible environments, lack of reasonable accommodation, negative attitudes, discriminatory application and admission procedures and lack of disability policies and choices disadvantage students with disabilities in Africa (Chataika et al., 2012). Despite the fact that Nigeria enacted inclusive education policy in 2008, it experiences socio-economic barriers, inadequate funding, lack of infrastructural facilities and a lack of teacher preparedness on inclusive practices, which is compounded by administrative problems within schools. Many schools have decrepit structures with no libraries, laboratories and other support facilities (Ibok, 2015; Igbokwe et al., 2014). Similarly, inclusive education in Ugandan experiences major hitches which include negative cultural attitudes towards disability, shortage of resources, poor funding and inadequate teacher training in inclusive practices and lack of mobility devices, which discourage resource allocation to learning institutions (Abimanyi and Mannan, 2014).

Kenya is among the African countries that has made remarkable advances in the pursuit for inclusive education (Nungu, 2010, Republic of Kenya, 2008, 2009, 2010). The government has embraced and supported the practice of inclusive education by domesticating various international agreements in its laws (Njoka et al., 2012). The policy framework (Republic of Kenya, 2005, 2009, 2012) recommended that all secondary schools adopt, design and implement programs that carry out inclusive education. In spite of inclusive education policy, disability remains a major course of exclusion in schools. The study analysed the impact of school strategies in overcoming physical barriers that hinder the implementation of inclusive education in public secondary schools in Kenya.

General objective

To examine the effectiveness practices of policy towards the implementation of inclusive education policy in Tharaka-Nithi County Kenya

Research objective

To determine the influence of school strategies in

overcoming physical barriers that hamper the implementation of inclusive education in public secondary schools.

Null hypotheses of the study

There is no significant relationship between school strategies and overcoming physical barriers that hinder the implementation of inclusive education

LITERATURE REVIEW

Inclusive education policy guidelines on school strategies

Inclusive policy guidelines on school strategies to overcome physical barriers are critical towards the successful implementation of inclusive education as the approaches address the needs of every learner. Policy guidelines on inclusion enable schools to restructure their strategies that enable every learner to access course content, fully participate in learning activities and demonstrate their strength at assessment (Republic of Kenya, 2019). Inclusive guidelines focus not only on education quality for all learners but also demands that the learning environment should be restructured to accommodate diversity. Simply dumping learners with disabilities in regular schools without addressing issues of instructional, human and structural support towards educational diversity, condemns inclusion to failure (Hughes, 2015). Schools that nurture diversity, adopt strategies that not only develop equal opportunities for learners to participate in the school curriculum but also need the development of financial support systems that provide resources essential for learners with special education needs.

Variables influencing school strategies

Inclusive education strategies can only be recognized when all relevant variables that regulate the implementation process are in control. This is because policy implementation is concerned with working within the school systems through which policy goals are put into practice. Some of the problems associated with practices of inclusive education policy that are evident during implementation are as a result of errors made from the other stages (Gallup, 2017). According to Mulugeta (2015), five variables influence school strategies towards policy implementation namely; the policy content and the context through which the policy must be implemented. The commitment of implementers towards the policy, the capacity of the implementers to implement the policy and the support of policy consumers and partners whose interests are affected by the policy (Tesfaye et al., 2013; Puhan et al., 2014).

Policy content is one of the crucial pillars on which school strategies on inclusive education policy are founded. The content of policy is generally viewed as a fundamental factor in creating the parameters and guidelines for implementation, although it does not determine the exact sequence of implementation (Fullan, 2015; Bell and Stevenson, 2015). The policy content includes: what it sets out to be done; how it communicates about the problem to be solved and how it aims to resolve the problem. Commitment of policy implementers is usually assumed to be the most significant factor in policy objectives achievement process. Commitment is biased and very hard to measure, (Gallup, 2017). However, there are pointers that show the level of commitment of a school to a particular mission. One pointer is accomplishing responsibilities and assurances, especially when the school knows what its roles are towards policy implementation. Practices of policy may be noble, but if the implementers are reluctant to come up with effective strategies to carry it out, implementation will not occur (Mason, 2016; Pont, 2017)

Formation of policy consumers and partners, among those affected by the practice of policy is one of the most central components during the implementation process. The success or failure of practices of policy, in this case, school strategies, depends on the support the policy produces among those who are affected (Hopfenbeck et al., 2015). Policy implementation researches have revealed that the understanding of any public policy rests on the capability to implement it (Hess, 2013). It is mostly known that many development efforts are unsuccessful in many countries because they lack organizational ability to implement and sustain the practices of policy. Capacity is normally defined as the ability to accomplish policy functions, solve problems, set and realize policy objectives (Hopfenbeck et al., 2015; Bell and Stevenson, 2015). The general organization's ability, as the structural, functional and cultural capacity is to implement the policy objectives (Burns et al., 2016). An institutional (school) capacity to modify its strategies and systems to enhance accessibility for all learners is crucial to the implementation on inclusive education policy. These strategies include: authorization, financial investment, building an enabling environment, ethos, and the way the individuals and institution intermingle in the public sector and within community as a whole (Bell and Stevenson, 2015). The school is a key player to the implementation of practices of inclusive education policy

School capacity to develop effective school strategies

The central role of the school managers is to create

inclusive schools that are both excellent and equitable for all students. Inclusive schools develop and adopt a variety of strategies. These strategies include: (a) coming up with a collective inclusive vision and mission, (b) independent inclusive implementation strategies, (c) utilization of staff to ensure effective inclusive service delivery, (d) developing collaborative agendas and teams, (e) providing continuous professional development opportunities to staff, (f) regularly monitoring and evaluation of service delivery, and (g) deliberately creating a positive school environment (Causton and Theoharis, 2014; McLeskey and Waldron, 2015). Like many reforms, inclusive education involves reforming the cultures, practices and strategies within the schools so that they respond to the learners' diversity, (Cheung, 2012; Bell and Stevenson, 2015). A key question that arises is; what indication is there that regular schools can perform in approaches that respond to learners' differences and to nurture participation in their ethos, curriculum and school communities? Despite the enactment and domestication of international laws on inclusive education, there is still a big gap between policy frameworks and inclusive practices on the ground (UNICEF, 2019). Schools need to put in place systems related to inclusive strategies in order to respond effectively to learners' education needs and that to minimize barriers that hinder the implementation of inclusive education. Adjusting the school systems refers to altering the general school atmosphere to inspire barrier-free learning environment (Fullan, 2015).

School practices that hinder the implementation of inclusive education

Acceptance of the notion that learners can be excluded from mainstream education because they are labelled as disabled amounts to institutional discrimination. Students with disabilities cannot attend school if buildings are physically inaccessible. To ensure equity for learners with disabilities to an education, accessibility must be addressed broadly, in relation to entry and exit pathways to key resource rooms, appropriate seating arrangement, modified furniture and facilities, and transportation to the educational facility (Banham, 2018). Negative attitudes and damaging beliefs create a significant barrier to the education for learners with disabilities. These learners may face violence, abuse or social isolation from their non-disabled colleagues (WHO, 2011). The negative attitudes towards learner differences that result in discrimination and prejudice in the school and the society manifest itself as a critical barrier to the learning process. However, such obstacles can be overcome through inclusive school strategies that nurture access and participation for all learners regardless of their disabilities. Economically, learners with disabilities may be required to pay schools fees, examination fees, purchase books and school uniform. Fees and other school levies pose a particular obstacle especially for those living in poverty, which is experienced in disproportionately high rates by students with disabilities and their families (Cheshire, 2018).

Other barriers that hinder the implementation of inclusive education include inadequacies in policy and legal support, resources and facilities, specialized staff, pedagogical techniques, flexible curricula, supportive leadership, and cultural attitudes. It is imperative that schools put more energy on useful inclusive education practices and strategies that value students' welfare, dignity, self-sufficiency and contribution to the society. Hence, learners with disabilities fully access and participate in the learning alongside their non-disabled colleagues (Cobley, 2018; Florian et al., 2017; Hehir et al., 2016; UNESCO-IBE, 2016). The physical environmental barriers of the playgrounds can contribute to segregation of learners with physical disabilities. Discrimination from playgrounds occurs through different mechanisms, most of which are neither deliberate nor acknowledged as exclusionary. Marginalization occurs through the operationalization of policies, or the types of material and surfaces that are used. In research interviews, learners with disabilities have termed school playgrounds as places where they experience tremendous segregation. Other barriers associated with physical activities include lack of trained teachers to assist students with physical activities and damaging actions such as bullying from non-disabled learners. Addressing these barriers means focusing on the social experiences on physical activities, hence, misunderstandings of disability, lack of knowledge about the benefits of enhanced physical activities (Kumari and Raj, 2016), concerns about safety, and lack of funding are barriers that need to be addressed.

Inclusive education as a guiding principle for school transformation

Embracing inclusive education as a guiding principle naturally requires transformation of education systems, and this change process is consistently challenged with several encounters. To understand change within the school, it is important to discern what change looks like from different points of view (Sarton and Smith, 2018). Reforming school systems to become inclusive is not only about putting in place developed inclusive policy guidelines that meet the needs of learners, but also about transforming the schools' strategies, believes and values (UNESCO, 2014). It is important to note that the transformation process towards inclusion involves overcoming some obstacles such as; a) existing non-inclusive ethos, beliefs and tenets (Elder et al., 2016), b) lack of understanding of inclusive policy, c) lack of inclusive education skills among teachers, d) limited

physical, human and financial resources and e) unsuitable school organization. Well-intentioned transforming process develops confidence, applicability and the yearning to get better results. Accountability and improvement can be meritoriously intertwined, but it requires great expertise. There are several crucial strategies that contribute to successful transformation process towards inclusion in a learning institution. This include; a) clarity of purpose, b) having realistic goals on inclusive education, c) motivating the key player and partners, d) support to the implementers, e) provision of necessary resources, f) monitoring and evaluation of the entire process of transformation (Schuelka, 2018; Timmons and Thompson, 2017; Carrington et al., 2017; UNICEF, 2015; Subban and Mahlo, 2017)

One of the fundamental ways of determining the impact of school strategies that aid in overcoming physical barriers towards the implementation of inclusive education is through quantifiable tools that measure the access and participation of learners with special education needs. It is a straight forward method of counting the number of learners previously and currently enrolled in schools. However, measuring the success of inclusive education strategy in a school should go beyond merely counting students to evaluate access, but should include measures of educational quality, learning outcomes, completion rates and students' personal encounters (UNESCO, 2017; Carrington et al., 2017; EASNIE, 2017; Sailor, 2015; Shogren et al., 2015). A well-known measurement tools such as the *Index for Inclusion* (Booth and Ainscow, 2011) provides an approach to developing schools and educational institutions based on three-dimension process namely; a) school culture that build relationships deeply rooted in establishing shared inclusive values and beliefs, b) policies that enable the school to plan for change for the purpose of increasing participation for all and c) practices that deal with what is learnt and taught and that promote positive interactions. Loreman et al. (2014) suggest that evaluating effective school strategies to successful inclusive education can be identified through Inputs, Processes, and Outcomes. Arguably the most significant strategy is the transformation of school systems, making it possible for inclusive education to take place structurally and culturally. This increases access, presence, participation and success for all students in education (Booth and Ainscow, 2016). Hence, the schools identify and eliminate both structural and cultural barriers that hinder the implementation of inclusive education.

Theoretical framework

Social model of disability recognizes that all learners have diverse needs and at the same time have equal rights to access and participate in all circles of the society including the education system. The model recognizes that social perceptions, attitudes, institutions and policies can all be modified to respond to learner diversity and for accessibility to equal opportunities of people with disabilities (Ahmad, 2015). The school contextual components include physical, social, cultural and institutional context. These components within mainstreamed schools have been designed to cater for the education of non-disabled learners. The buildings, highly structured curriculum, teachers and environmental background, were structured and prepared to handle learners with no disabilities. The school beliefs, rituals and values that give the school its identity were socially constructed. These values and beliefs are highly upheld and easily influence the school activities and perceptions which influence the behaviour of its members towards learners with disabilities (Cook and Polgar, 2014; Hendricks, 2016).

Application of social theory of disability in the study

The concepts of structures, systems, and practices that are dominant in the social theory of disability are relevant to this research. Among the practices of inclusive policy are school strategies and systems, whose alterations are crucial for accessibility and participation of learners with disabilities. From the social model of disability, a school that implements inclusive education policy ensures that strategies and systems are modified to provide a barrier free environment for learners with disabilities. Devoid of effective school strategies and systems create physical and attitudinal obstacles that are not only barriers to the learning process but also become disabling to learners with disabilities. Schools are called to remove these barriers and to ensure that its systems and strategies are supportive and build communities that value, celebrate and respond to learner diversity. This is reinforced by respectful relationships between learners and school community members. To celebrate this diversity, the school is supported by collaborative relationships with parents and other key stakeholders through continuous communication, learning partnerships, participation and a consultative decision-making. Hence, the school provides high quality education to all learners, view differences as a resource and responds constructively to learner diversity. And more importantly, such a school ensures that inclusive education strategies are embedded in the school vision, mission and initiatives.

The ultimate outcome is improved accessibility and participation for all learners to thrive intellectually and socially. Intellectually, it makes learners have a positive attitude towards learning and improve their academic potentials, resulting in increased educational success in acquiring personal educational goals. This closes the performance gap that already exists between the non-disabled learners and learners living with disabilities.

Similarly, more students with special education needs get enrolled in mainstream schools hence, closing the enrolment gaps. Socially, students feel accepted and

Table 1. Teachers, Learners with disabilities and Non-Disabled Students' (NDS) sample size.

Schools	No. of LWD	Girls with disabilities	Boys with disabilities	Classes with LWD	Focus groups	No. of Teachers
School - A	4	0	4	Forms 1 and 4	2	10
School - B	2	0	2	Forms 1	1	6
School - C	3	3	0	Form 1	1	8
School - D	2	0	2	Form 4	1	6
12 Schools	0	0	0	None	None	70
Total - 16	**11**	**3 Girls**	**10 Boys**	**5 Classes**	**50 NDS**	**100**

Note: The 12 schools had no students admitted currently but had previously admitted learners with disabilities and therefore participated in the study; LWD= learners with disabilities; NDS= Non-Disabled Students.

connected to others, with improved academic standards. To celebrate this diversity, the school is supported by collaborative relationships with parents and other key stakeholders to provide an enabling learning environment for all learners to prosper. Hence, the school provides high quality education to all, view differences as a resource and responds constructively to the special needs of all learners. And more importantly, such a school ensures that practices of inclusive education policy are embedded in their mission, objectives and initiatives

METHODOLOGY

Research design

The study employed mixed methods research designs, in order to provide an in-depth and complete perspective on the impact of school strategies in overcoming physical barriers that hinders the implementation of inclusive education in secondary schools in Kenya (Creswell and Clark, 2011). The benefit of employing mixed methods research design is that the researcher combines the fundamentals of qualitative and quantitative methods by drawing from the strengths of each technique. A mixed-methods approach allowed the researcher to gain a broader perspective and deeper understanding of the impact of school strategies in overcoming physical barriers that hinder the implementation of inclusive education in schools. Within a mixed method research design, the study precisely utilized the convergent parallel method, which involved collection and analyses of both quantitative and qualitative data separately in the same time-frame, analyzes the two components independently, and the two data sets of results are merged for an overall interpretation. The purpose of the convergent parallel method was to develop a more understanding of inclusive education by comparing and contrasting various results from the same sources. Concurrent timing gives the priority to quantitative and qualitative methods equally, (Creswell and Clark, 2011). The study analyzed the impact of school strategies in overcoming physical barriers that hinder the implementation of inclusive education in schools with physical disabilities.

Target population and sample size

Target population for this study comprised 156 principals, all teachers and secondary school students. The sample size comprised all extra-county and county secondary schools who have/had enrolled learners with disabilities (LWD), non-disabled learners, studying in the same classes with LWD and class teachers teaching learners living with disabilities. Aggregated data for learners living with disabilities currently or previously admitted in public secondary schools was lacking at the Tharaka-Nithi County, hence the researcher made call to 56 school principals of all the extra-county and county schools in Tharaka-Nithi County to find out whether there were LWD admitted in their schools. Sixteen (16) schools out of 56 schools had enrolled learners with physical challenges. The researcher targeted extra-county and county schools because they are well-resourced financially, physically and in human resources. Hence, the researcher felt that such schools were capable of implementing inclusive education without challenges. All the learners with disabilities in sampled schools were purposively included for the interviews. Non-disabled learners studying in the same classes were randomly selected to participate in the focus group discussions. The researcher used the proportionate sampling techniques to get the required sample size of teachers as indicated in Table 1.

Data collection procedure

Before the administration of the research instruments, the researcher obtained ethical approval from the Ethical Review Committee (Pwani University) and a research permit from the National Council of Science, Technology and Innovation (NACOSTI) because the study involved interviewing the learners with physical disabilities. The researcher made courtesy calls to the Education Officers for clearance to conduct research in the respective areas. The researcher then visited the 16 selected extra-county and county secondary schools. She then wrote letters to the principals explaining the details of the research to be conducted.

The research instrument for data collection in this study was one questionnaire for all the teachers. The questionnaire for teachers was developed to provide the quantitative data. The questionnaire had both closed ended and open-ended items. Closed ended items facilitated straightforward scoring of data and data analysis. Open-ended items gave the teachers an opportunity to give their opinion and provide in-depth information. The interview for learners with disabilities was meant to give them chances to express their experiences in the school and focus group discussions for non-disabled learners studying in the same classes with LWD. The researcher conducted the interviews with the learners with physical challenges, which was done on one- on-one basis. A total of 11 learners with physical challenges were interviewed. The duration of the interviews took 10-15 min. The researcher also conducted 5 focus group discussions each with the 10 non-disabled learners, which lasted 20-35 min. The focus group discussions were audio-

Table 2. Teachers report on learners with physical challenges currently enrolled in their Schools.

Number of physically challenged learners in schools	Frequency	Percentage
4 students	10	10
2 students	06	06
3 students	08	08
2 students	06	06
None	70	70
Total	**100**	**100**

Table 3. Teachers report on learners with physical challenges previously enrolled in their schools.

No. of PC enrolled in the past in the schools	Frequency	Percentage
1-5	59	59.0
6-10	7	7.0
10+	4	4.0
None	30	30.0
Total	100	100.0

taped so that the researchers could listen carefully to the responses later after the interview. Moreover, using a tape recorder was considered important so the researcher could concentrate on what the respondents were saying rather than writing notes.

Data analysis

Quantitative analysis was based of numerical measurements of a specific aspect of the population. In the data analysis process, the raw data gathered from the questionnaire was keyed into SPSS version 20 in order to make inferences about the population using the information provided by the sample. Descriptive statistics tables, bar graphs and pie charts were used to analyze quantitative data by use of frequencies and percentages. Hypothesis testing was carried out via the Analysis of Variance (ANOVA) and t-tests. A linear regression analysis model revealed that school strategies as independent variable predicted the implementation of inclusive education in secondary schools as dependent variable.

Qualitative analyses involve obtaining detailed information about phenomenon being studied and establishing patterns and trends from the information collected (Creswell, 2014; Viswambharan and Priya, 2016). The researcher transcribed all interviews and organized them into meaningful categories and grouped them into related codes. The coded information was organized into themes and presented in a narrative form. The data facilitated in making conclusion and recommendations, including recommendations for further research.

RESULTS

Instrument return rate

A total of 100 out of 120 teachers, constituting 83.3% response rate, completed and returned the questionnaire. On the other hand, 11 out of 13 learners with physical challenges were interviewed, which was an 84.6% response rate. Similarly, 5 focus group discussions, each with 10 non-disabled students participated in the study. The return rate of 75% and above was considered sufficient to provide information about a given population. Best and Kahn (2006) suggest that a 50% response rate is adequate, while 60 and 70% are good and very good respectively. The researcher made follow up telephone calls with the school principals to establish whether the questionnaire was ready for collection. Best and Kahn (2006) support the use of vigorous follow-up measures to increase the questionnaire return rate.

Physically challenged learners enrolled schools

The study sought to establish the number of physically challenged students that had been registered in secondary schools in Tharaka-Nithi County. The information is represented in Tables 2 and 3. Majority of the teachers (70%) indicated that they had no learners with physical disabilities currently admitted in their schools, while 10 teachers reported that they had 4 such students in their school. Similarly, 6 teachers revealed that their school currently had only 2 students living with physical disabilities, while 8 teachers indicated their school had 3 such learners. Finally, 6 teachers indicated that their school had only 2 learners with disabilities. This report implies that there are very few learners with physical disabilities that are currently enrolled in public

Table 4. Teachers' views on the adequacy of school strategies in overcoming physical barriers that hinder inclusion of learners with physical disabilities.

	Adequately done %	Not done at all%
Regular monitoring and evaluation of physical resources to enhance safety of learners with physical disabilities	14.0	86.0
Frequency in updating the school playground/landscape for easy accessibility	22.0	78.0
Establishing safe accessible school buildings (Doors, stairs/ramps, sanitation/wash areas, corridors/verandas)	20.0	80.0
Modified furniture in key resource rooms for safe usage by learners with disabilities (computer & science laboratories, libraries)	28.0	72.0

Adapted from: The National Special Needs Education Policy Framework, (2009), Republic of Kenya. Art 23.

secondary schools in Kenya. In these four schools, the researcher conducted the interviews for learners with disabilities and focus group discussions for non-disabled students. From Table 4, 59 teachers revealed 10 schools had previously admitted between 1 and 5 learners with physical challenges while 7 teachers indicated that their school had previously admitted 6 -10 students with physical challenges. Only 4 teachers indicated that their school had previously admitted more than 10 such learners. A significant number of schools (30%) had never admitted learners with physical challenges previously. The information was crucial as it enabled the researcher to identify 12 schools (70%) where data was collected through questionnaire for teachers only as the schools lacked learners with disabilities.

The analysis presented in Table 1 shows that majority of teachers (86%) felt that in most schools, regular monitoring and evaluation of physical resources to enhance the safety for learners with physical disabilities was not done at all, while 14% felt that it was adequately done. Further, 78% of teachers felt that schools were not frequently updating their playgrounds/compounds to accommodate learners with disabilities, while 22% of teachers indicated that schools were adequately doing it. Among the sampled teachers, 80% indicated that most schools' buildings were not safely accessible to learners with disabilities while 20% felt that the buildings were adequately safe for accessibility by all learners. Finally, 72% of teachers felt that schools lacked modified furniture in key resource rooms for safe usage by learners with physical disabilities while 28% indicated that schools had adequately modified their furniture in key resource rooms.

Interviews for learners with disabilities

Excerpt 1: Interviews

Researcher: What physical barriers have you encountered since you came in this school?

Interviewee 1: A form four student with prosthesis leg shared the following:

"I was climbing down from the school library located in the second floor when I slipped off a steep staircase. I lost balance and fell dangerously. My prosthesis which is connected at the knee got dislodged. As I tried to stand up with the help of handrails I felt some sharp pain near the ankle of the other leg. The other students carried me to the school nurse. Upon examination, the normal leg had a small crack. I became frustrated and contemplated discontinuing with the school. That marked the end of attending library classes until I completed the school".

Interviewee 2: Form 1 students with a leg with disability

'I was in form one and very new in the school. I was allocated some simple manual work to collect rubbish around the school compound. One day, I stepped on a hole with my crippled leg. There was over-grown grass which covered the hole. The other students had to lift me up to free myself from the hole. I never got hurt but I was scared of stepping on a snake. From that day the teacher instructed that I should not be given any manual work'

Interviewee 3: Form one student with one short leg

"I had just reported in form one. I went for a short call in toilet which was not clean and the floor was wet. Hardly had I closed the door than I slipped off and I fell on that filth. My pair of trousers became dirty and smelly. I never got physically hurt but I was very annoyed and devastated. The toilets were connected to the bathrooms. Someone had left some small pieces of soap. I picked them, got into the bathroom washed my trousers and worn them wet. I got my other trousers and went to class but very frustrated"

Interviewee 4: Form four students with speech difficulty

"I don't know why I speak like a small girl. At first I was a

very frustrated boy especially when I was in form one and two but I have learnt to live with it and to accept myself. The other boys call me a homosexual and they think I change the voice to attract them. I am not a homosexual and I don't feel attracted to boys. It really hurts to be called so. When I was in form one I almost dropped out of school. Guidance and counselling teachers really helped me. I have gone to different hospitals but nothing has been done to alleviate my problem. Other students mimic me. I don't speak in the presence of girls and when they speak to me I give a gesture to show that I have lost my voice. This is very frustrating'.

Interviewee 5: Form 1 with a short physique

"My short structure made it difficult for me to get anything that could fit me. Before they made the right sized chair and desk things were very bad. The chairs were too high such that my legs were hanging the whole day in class and swelling. The school uniform was too big for me. It took one month for the school to provide all the necessary things I needed. Today I am comfortable and happy".

Some of the traumatizing real experiences made the students with disabilities very vulnerable. One focus group shared on how some students dropped out of school and others were withdrawn by their parents who felt that the school was not prepared to cater for the needs of their children. Feeling of powerlessness may come into play when other non-disabled students feel that there is nothing they can do to change the situation of their vulnerable colleagues. In fact, Cologon (2019) argue that it is indeed easier to formulate policies on inclusive education than to practice them. Caring and supportive environments are key components of an inclusive school.

Focus group discussion for non-disabled learners

What is the current state of your school playground/ landscape for usage by learners with physical disabilities? (Topography, terrain, general safety)

G5: Topologically, the school is quite hilly. Students climb several small hills from classrooms to science laboratories, to the dining hall and even to the staffroom. The hilly terrains are not only dangerous to learners with disabilities but also to the non-disabled students. Often you meet several non-disabled students with crutches because they fall and get fractured limbs. Leveling the landscape is a necessity in our school. The school playground is in a bad shape and no learner with physical challenges can play on the ground.

G3: The school landscape is quite flat and quite safe for learners with disabilities. The playground is quite unsafe for all learners to play because it has many big pot holes and quite bumpy. This is unsafe for all learners but dangerous for learners with disabilities. The school should invest in making the playground leveled for the safety of all students

How safe are school buildings for learners with physical disabilities? (Doors, stairs, sanitations, corridors/verandas)

G2: Most of the school buildings are not easily and safely accessible for learners with physical disabilities. The key resource rooms such as school library, computer room, some classrooms and some dormitories are located on the upstairs are accessed through steep staircases which are quite dangerous to learners with physical disabilities and the elderly teachers. We have had several major accidents for both non-disabled students and learners with disabilities. The joining corridors and verandas are narrow and slippery. Our school has no modified toilets and sanitations. Students with disabilities use the same toilets with non-disabled learners.

G4: All the school buildings are accessible because our school has no upstairs. Students are able to access all school buildings without problems. During rainfall students with physical disabilities experience some difficulties because of the muddy pathways. The school does not have even one modified toilet/latrine and bathrooms. The student with disability uses the same wash rooms with other students who are a bit careless especially the toilets.

G3: In all the school buildings the doors and corridors are very narrow. A student on crutches in our school finds it hard to maneuver through them. The school has only one modified toilet but no modified bathrooms.

G1: The school lacks modified bathrooms and latrines for learners with physical disabilities. It is very difficult for them to use pit latrines used by all non-disabled students who are careless when using them

How safe are the furniture found in key resource rooms for students with disabilities? **Cite examples**

G5: The school totally lacks modified furniture in all the key resource rooms. The worse hit is the science laboratories where the stools are dangerously high for any learner with disabilities. The experimenting tables are also quite high.

G2: Classroom desks are quite strong and comfortable for learners with disabilities. Classes are congested and lack pathways for passage. Hence it is very hard for

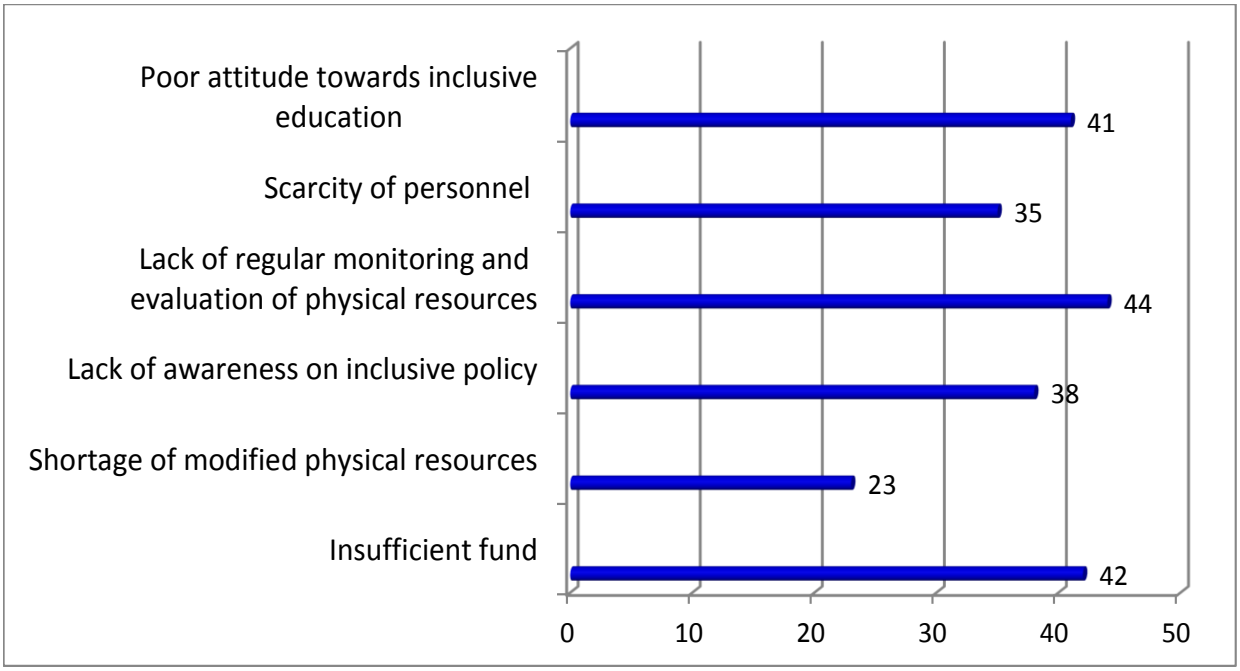

Figure 1. Challenges affecting school strategies in overcoming physical barriers.

students with disabilities to maneuver their way out of the classroom. In case of an accident it will be disastrous. Science laboratories lack modified seats and table for learners living with physical disabilities.

G4: The furniture in our school is quite weak and keeps on breaking. They are not good for any usage of any learners, worse for those with physical disabilities. The school needs to invest in modified furniture especially for learners with disabilities.

Challenges facing school strategies in overcoming physical barriers

Teacher identified several challenges to school strategies in overcoming physical barriers. The results are presented in Figure 1. In Figure 1, 44 teachers identified lack of regular monitoring and evaluation of physical resources as a major challenge affecting school strategies towards inclusive education. Further, 42 teachers identified insufficient funds to restructure the schools. Lack of awareness on inclusive education policy and shortage of modified physical resources to enhance safety for learners with disabilities was cited by 38 and 23 respectively. The other challenges identified by teachers included; scarcity of personnel, 35 teachers and poor attitudes towards the implementation of inclusive education 41 teachers. Many countries in the developing countries have not been able to effectively implement inclusive education policy framework. This is mainly due to poor policy implementation and the prevailing challenges that become a hindrance to inclusive education. Thus, lack of proper strategies on how to minimize or eradicate the aforementioned challenges, negatively affect the success of inclusive education

Suggestions for overcoming challenges facing school strategies

Teachers stated the following ways of overcoming challenges facing school strategies in order to overcome physical barriers hindering the implementation of inclusive education as illustrated in Figure 2. Figure 2 reveals that, 45 teachers cited employment of teachers with special education skills as a strategy to overcoming physical barriers that hinder the implementation of inclusive education. A significant 54 participants cited regular monitoring and evaluation of physical resources to meet the needs of learners with physical disabilities as a key strategy to inclusion. According to 42 teachers, modifying of school resource and facilities was identified as an inclusive strategy in schools. Further, mobilization of funds was cited by 34 respondents, while sensitization of key stakeholders on inclusive education policy and fitting of new school buildings with ramps respectively was identified by 50 and 45 of the participants. In this regard, the above-mention strategies imply that the schools need to make crucial changes to provide opportunities and supports for learners with special education needs. The willingness to accept and to take

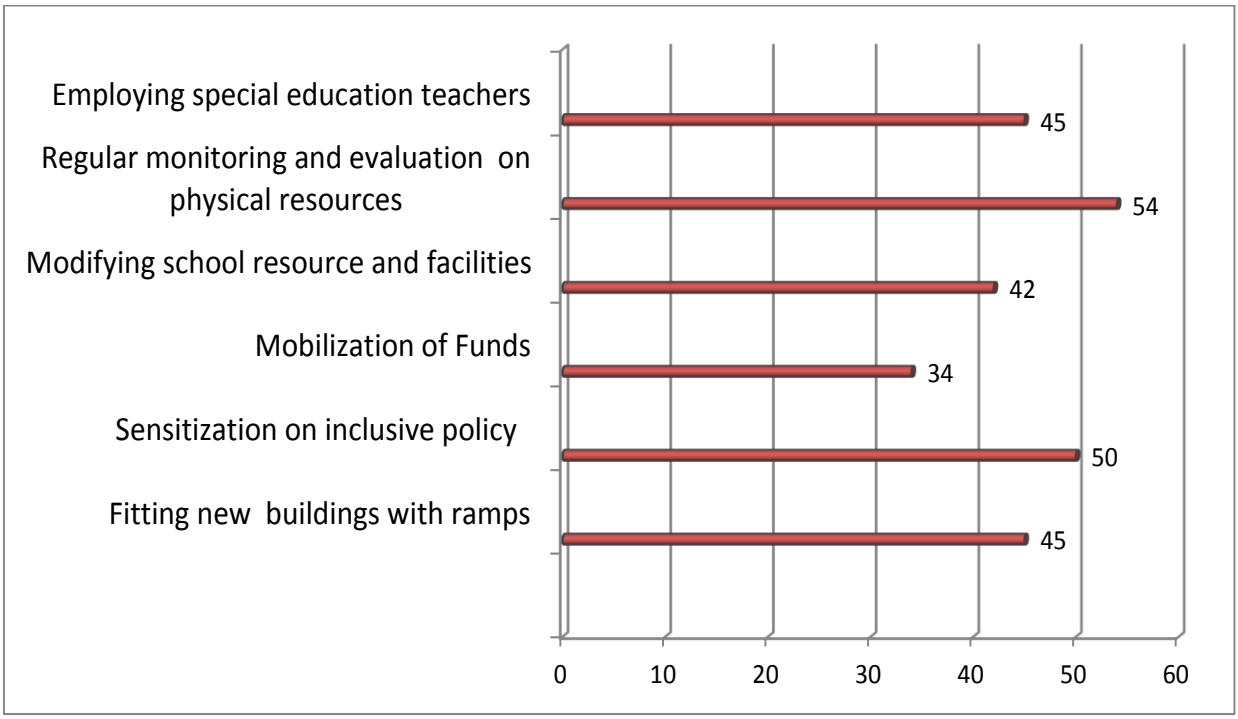

Figure 2. Suggestions for overcoming challenges facing school strategies.

Table 5. Model Summary for the influence of school strategies in overcoming physical barriers that hinder implementation of inclusive education.

	R	R Square	Adjusted R Square	Std. Error of the Estimate	P-values
School Strategies	0.223	0.050	0.040	3.61869	0.026

an active role in the lives of learners with disabilities, largely depend on a profound change of school culture, beliefs, and practices that adversely affect inclusive education.

Testing the null hypothesis

The study employed Linear Regression Model to measure the linear relationship between overcoming physical barriers that hinder the implementation of inclusive education as the dependent variable and school strategies as independent variables.

The results in Table 5 show a moderate positive correlation on the effectiveness of school strategies in overcoming physical barriers. The regression model also shows that there was a significant linear relationship between school strategies and overcoming physical barriers (p-value = 0.026, < 0.05). The coefficient of determination (R Square) shows that only 5% percent variation in overcoming physical barriers was accounted for by school strategies. The model has a poor fit indicating there are also some more factors that influence inclusive education apart from school strategies.

Table 6 shows the results from regression analysis where school strategies were the independent variable while overcoming physical barriers that hinder the implementation of inclusive education was the dependent variable. The unstandardized beta coefficient shows the increment in overcoming physical barriers that hinder the implementation of inclusive education with respect to the marginal increment in school strategies.

Moderation of administrative support on the relationship between school strategies and implementation of inclusive education

Table 7 shows high positive correlation between school strategies and implementation of inclusive education with a correlation of 62.4 percent. The coefficient of determination (R Square) shows that 39 percent variations in the implementation of inclusive education is due to variations in the Administrative support* School

Table 6. Regression Coefficients for the Influence of School Strategies and Overcoming Physical Barriers that Hinder the Implementation of Inclusive Education.

Model	Unstandardized Coefficients		Standardized Coefficients	t	p-value	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	16.586	1.697		9.775	0.000	13.219	19.954
School Strategies	0.506	0.223	0.223	2.264	0.026	0.063	0.949

Table 7. Model summary for moderation of administrative support on the relationship between school strategies and inclusive education.

R	R Square	Adjusted R Square	Std. Error of the Estimate	P value
0.624[a]	0.390	0.371	2.92963	0.000
a. Predictors: (Constant), Administrative support*School strategies, School strategies				
b. Dependent Variable: Inclusive education				

Table 8. Regression coefficients for moderation of administrative support on the relationship between school strategies and inclusive education.

Model	Unstandardized Coefficients		Standardized Coefficients	t	p-value	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	6.547	6.583		0.995	0.322	-6.520	19.614
School strategies	0.361	0.926	0.160	0.390	0.698	-1.477	2.199
Administrative support	1.856	0.779	0.933	2.385	0.019	0.311	3.402
Administrative support_x_Strategies	-0.073	0.105	-0.468	-0.695	0.489	-0.281	0.135

Where; Administrative support _x_ School strategies - Administrative support* School strategies.

strategies and School strategies. The p-value was 0.000, less than 0.05 hence concluding that there was a significant linear relationship between the predictors (Administrative Support* School strategies and School strategies) and the criterion variable (Inclusive education).

The result in Table 8 indicates that administrative support is an insignificant moderator in the relationship between school strategies and implementation of inclusive education. This can be observed because the interaction variable administrative support* school strategies has a p-value of 0.489 that is more than 5 percent significance level. According to Mike (2017), a moderating variable can reinforce, weaken, contradict, or otherwise alter the relationship between independent and dependent variables. Moderating variables can also change the direction of this relationship. In a research by Graham and Spandagou (2011) it is found that principals' perceptions of inclusion are formed by their own understandings of inclusion and the context of the school they are in. This influences their attitudes towards the decisions and strategies made in the implementation of inclusive education. Certainly, this impacted negatively their attitudes towards inclusive education.

DISCUSSION

School strategies and overcoming physical barriers

It is disheartening that regular monitoring and evaluation of physical resources to enhance safety for all learners was not done at all in most schools according to the study findings. Devoid of effective monitoring and evaluation of physical resources hints that no tangible action plans were put in place in relation to physical resource modification (UNESCO, 2009). As a result, physical barriers become limitations for learners with physical disabilities in accessing educational facilities with ease. The way schools articulate the strategies to overcome physical barriers enable learners with disabilities to access and participate fully in their learning process. Moreover, modified physical resources are needed for the success of students with disabilities in an inclusive learning environment (Smith and Tyler, 2010; Florian and Linklater, 2010; Baldiris-Navarro et al., 2016). In addition, the findings further established that updating of schools' playgrounds and landscape for easy accessibility was poorly done as attested by learners with

disabilities. This implies that learners with physical disabilities are not able to get involved in any physical activities. Playground activities can promote physical and emotional fitness and social well-being, which nurtures self-esteem for learners with disabilities. More precisely, playgrounds provide chances for the growth and upkeep of fine motor skills, physical endurances, and social networking among such learners. Therefore, participating wholly in physical activities has far reaching benefit that extends beyond school life. With such positive returns, students who are excluded from physical activities are at risk for negative social, learning and health consequences (WHO, 2017; UNESCO, 2015).

In addition, in the study findings, establishing safe accessible school buildings was not done. The implication is that students with disabilities have continued to experience physical barriers due to lack of safe wide doors, ramps, unmodified sanitations and narrow connecting corridors. Learners with physical disabilities were hurt when accessing key resource rooms. Other students have contemplated dropping out of school and/or forcing their parents to withdraw them. Tugli et al. (2013) affirm that physical environment constitutes a great barrier to learning and makes learners living with disabilities vulnerable and unsafe. In confirmation, UNICEF (2016) recommends that a learner-friendly school should be frequently updating their learning environment so that all learners are free from fear, nervousness, danger, disease, or injury. The Kenyan Constitution: Section 54(1) (c) mandate that individuals with disabilities are entitled to access any facilities that are integrated into the society to get the services needed. Adjusting key areas with modified furniture and accessible surroundings is paramount for learners with disabilities to participate fully in the leaning process.

Challenges affecting school strategies to overcome physical barriers that hinder inclusion

The study established that most schools lacked regular monitoring and evaluation of physical resources to enhance the safety for learners with disabilities. With irregular monitoring and assessment of physical resources within the school led to unmodified physical resources and these hindered learners with disabilities from accessing key areas in the school. Poor attitudes towards inclusive education policy by key stakeholders and lack of finances led to poor strategies to overcome physical barriers that hinder the implementation of inclusive education.

Suggestions for overcoming challenges facing school strategies

The study established several significant suggestions by teachers that can overcome challenges to school strategies. It was encouraging that teachers identified regular monitoring and evaluation of physical resources to enhance their modification as a major solution to access and participation for learners with physical disabilities. Sensitization of key stakeholders on inclusive education policy is paramount to elicit support and ownership of inclusive education project in the school. Teachers are key stakeholders in the implementation process; hence, employing teachers with inclusive education skills is vital for the achievement of inclusive education objectives. With enough funds, schools are enabled to fit all the new school buildings with ramps and other modified facilities to promote the implementation of inclusive education successfully

Conclusion

School strategies and the implementation of inclusive education

The study findings revealed that inclusive strategies were not put in place to overcome physical barriers in most schools. Regular monitoring and evaluation of physical resources to enhance safety for learners with disabilities was significantly lacking in most schools. In the absence of regular monitoring, most schools were unable to up-date their playgrounds/compounds, to provide safe accessible buildings and modify furniture in key resource rooms such computer and science laboratories, classrooms and libraries. Therefore, the study concludes that the school strategies were not anchored in overcoming physical barriers that hindered the implementation of inclusive education. For this reason, learners with disabilities have to adjust to get the needed education or drop out of school

Challenges affecting school strategies

Various challenges affecting school strategies that overcome physical barriers towards the implementation of inclusive education were prominent. The findings suggest a probable connection between the challenges and the weak practices of policy towards the implementation of inclusive education in schools. The conclusion drawn is that a weak policy framework weakens the development of effective school strategies that positively influence the implementation of inclusive education. Furthermore, the weak policy atmosphere contributed to irregular physical resource inspection, infrequency in updating school playground/landscape, lack of establishing safe accessible school buildings and unmodified furniture in key resource rooms for safe usage by learners with disabilities. Thus, the study concluded that lack of effective school strategies was a major obstacle in overcoming physical barriers that hinder

the implementation of inclusive education in schools.

RECOMMENDATIONS

(i) Based on the results, a coordinated and multipronged action plan is needed to restructure school strategies in order to effectively overcome physical barriers that hinder the implementation of inclusive education. When implemented, the plan should stimulate requisite policy reforms, system alignments and funding strategies that will ensure effective implementation and sustainability of inclusive education in all learning institutions.
(ii) In order to restructure the schools, the governments should come up with inclusive standardized strategies to serve as indicators of knowledge, skills and dispositions. The strategies will provide the impetus for radical transformation of school programmes and systems leading to effective implementation of inclusive education.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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