Adaption of Teaching Learning Strategies for Sustainability of Inclusive Education by Public Primary Schools in Nandi East Sub-County, Kenya

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ABSTRACT

The study adopted descriptive survey design and it was guided by the social inclusion theory advanced by Pocock (1957). The study targeted a population of 4984 respondents comprising of head teachers, teachers and learners from 87 public primary schools in Nandi East sub-county. Sample size was 10 head teachers, 86 teachers and 486 learners. Stratified sampling was used to select schools and their head teachers. Simple random sampling was used to select teachers and learners. Research Instruments used were questionnaires, interviews and observation checklist. Validity of the instrument was ascertained through pre-test using split half test. Reliability was established through test re-test method. Piloting was done using 10% of the sampled population to establish validity and reliability of research instrument. Quantitative data generated was analyzed using frequency distribution tables, percentages and mean while Qualitative data obtained will be analyzed thematically. Descriptive statistics and relationship between independent and dependent variables were explained and data was analyzed using statistical package for social sciences (SPSS) version 20. Analyzed data was presented using tables, bar charts and pie charts. Results indicated that teaching learning strategies adapted has an influence on sustainability of inclusive education in public primary schools in Nandi East Sub-County. The study concluded that teaching learning strategies adapted affects sustainability of inclusive education. Sustainability of inclusive education is enhanced when interactive teaching sessions are adapted and when learners are allowed to work together in different groups. On teaching learning strategies, the study recommended that interactive teaching sessions should continue being adapted if sustainability of inclusive education is to be enhance

KEYWORDS

Adaptation, administrators, factors, support, inclusive education.

Background to the Study

Inclusive education is an approach in which learners with severe or mild forms of disabilities, regardless of age and disability are provided with appropriate education within regular schools with normal children. UNICEF (2016) defines inclusive education as the real learning opportunities for groups who have traditionally been excluded and includes those with disabilities. It is seen as a continuous process that is geared towards eliminating barriers to education and promotes reforms in culture, policy and practice in the learning institutions so as to incorporate all learners, including those with disabilities. World Education Forum in Dakar (UN, 2016), recognizes the global momentum of achieving accessible and quality education for all children with special needs so as to achieve the vision 2030 globally. The Dakar framework for Action clearly paves the way for inclusion as one of the main strategies to address the challenges of marginalization and exclusion in response to the fundamental principle of Education for All, that all children should have equal opportunity to learn.

In Kenya, 2.2% of the population are persons with disability, majority being school going children under the age of 14 years Kenya National Bureau Statistics (KNBS, 2019). The Kenya's education policy is centrally crafted within the EFA framework and UN Convention. With the adoption of EFA and other convention policies, special needs are mainstream into regular classrooms with normal children. Inclusion in education is perceived as a process of addressing and responding to the diversity of all children, by increasing their participation in learning and reducing discrimination, exclusion and inequality within and from education (UNESCO, 2005). This calls for reforms and restructuring of school environment so as to ensure that all learners have access to **a** wide range of educational and social opportunities. However, the need to restructur**e** and mak**e** reforms in school environment is still in a slow progress towards implementation of inclusive education which is sustainable more so in developing countries, where resources are inadequate compared to developed countries (UNICEF, 2018a). When a separate curriculum and special schools are used in providing education to learners with special needs and learning difficulties, it will promote an element of segregation of children who can learn normally and those who cannot.

A baseline survey by Leonard Cheshire Foundation on inclusive education across all counties indicate that inclusivity is being practiced in regular schools (Cheshire, 2018). In Nandi East Sub-County there are 87 public primary schools known to be having children with diverse disabilities enrolled in regular schools. With the inception of competency-based curriculum (CBC), provided a strong base for inclusion in all public institutions through provision of appropriate equipment, resources, infrastructure and re-tooling of teachers for effective implementation and sustainability of inclusive education (MoE, 2017). These led to an increase in enrollment of children with disabilities in regular schools who require adaptable resources, teaching strategies and physical facilities to be sustained in the learning institutions. The special needs learners should benefit in an inclusive school by getting school facilities like ramps constructed on doorways, handrails on the corridors and stairs, accessible toilets and well levelled playing fields, although the idea of inclusive education as not been fully embraced by teachers and head teachers in regular public primary schools (UNESCO, 2015). It is from this background that the study sought to find out the adaption of teaching learning strategies for sustainability of inclusive education by public primary schools in Nandi East Sub-County, Kenya.

Statement of the Problem

In Nandi County, the Education for all (EFA)laws were adopted and implemented in all the sub-counties, thus resulting in increased enrollment of children with special needs who require specialized and adapted programs for their retention in schools effectively. Inclusion of special needs in same

institution with normal children require suitable resources and strategies so that they can be retained in schools. However, this level of preparedness for inclusive education in public primary schools in Nandi East Sub-County is not known. This necessitated the current study to be undertaken.

Literature Review

The study was anchored on the principles of social inclusion theory by Pocock (1957). The proponents of the theory underpinned that the social setting should help socially excluded individuals overcome the inequalities they face and promote equality of opportunities and eliminating discrimination. The theory contends that each child is gifted differently and requires special resources for effective learning. It holds the view that educational system and programs should be designed with the aim of removing barriers of any kind. It opposes individual marginalization through exclusion in social setting and that children with disabilities should be provided with much needed support. Thus, it is arguable that learners with disabilities can considerably be empowered through the creation of enabling environment in regular schools by creation of barrier-free environment through restructuring or adaptation. Therefore, the adoption of Pocock's social inclusive theory as an element of this study's theoretical framework, finds justification in terms of its advocacy on adaptation as an important medium of sustainability of inclusive education. It was against this backdrop that this theory was deemed appropriate to guide this study on adaption of teaching learning strategies for sustainability of inclusive education by public primary schools in Nandi East Sub-County, Kenya.

Kenya's constitution (GoK, 2010), Supports equal access and inclusion of persons with special needs and disabilities in education and training programme at all levels as outlined in the Kenyan Education Policy framework. It also provides that all schools to ensure children with special needs and disabilities are provided for without discrimination. Inclusion embraces the social model, as the problem of inclusion lies in the environment and the community services have to cater for all children, including children with disabilities (Manzi, 2011). Therefore, in ensuring sustainability of inclusive education ordinary teachers' and ordinary schools are expected to unconditionally integrate all learners in the learning institutions.

A study by Zhu, et al. (2019) in one kindergarten Centre in Hong Kong, established that the Centre demonstrated variety of inclusive practices such as positive attitudes, use of variety of instructional methods, peer support and teamwork. They also found out that there was lack of training of teachers on special needs. A similar study was carried out by Apiyo (2017) in early childhood centers in Kisumu, established that there were inadequate qualified teachers to sustain inclusive education. The study used quantitative methodology. The two studies used early childhood centers and kindergarten for the study. A case study of teaching and learning methods in inclusive classroom in the foundation phase was conducted by Motitswe (2012) in South Africa. The study established that teaching and learning strategies used were flexible and different methods of teaching and collaborative learning was used. The study established that learners participated maximally and actively during the lessons, since their needs were catered for during teaching and learning process.

Teaching and learning strategies are the techniques and methods that a teacher applies to support pupil learning in a classroom system. Inclusive teaching and learning strategies strive to meet the needs of all learners, regardless of their differences in abilities and disabilities and support their engagement with subject materials. Pedagogy should be seen to be responsive to the needs of an individual learner, for these to occur, focus on empowering the mainstream teacher is a vital element in creating an inclusive pedagogy (Florian &Black-Hawkins, 2011).

A study by Zhu, Li, and Hsie (2019) in one kindergarten Centre in Hong Kong, established that the Centre demonstrated variety of inclusive practices including positive attitudes, use of variety of instructional methods, peer support and teamwork. They also found out that there was lack of training of teachers on special needs. A similar study was carried out by Apiyo (2017) in early childhood centers in Kisumu, established that there were inadequate qualified teachers to sustain inclusive education. However, the two studies did not address the adapted teaching and learning strategies and it used early childhood centers and kindergarten for the study. The above studies are similar to the current study, however they did not address adaptation of teaching and learning resources, thus this study will seek to investigate ways in which teaching and learning strategies are adapted for sustainability of inclusive education in public primary schools in Nandi East Sub-County. This study used a population of 10 public primary schools; therefore, the results were easy to replicate and generalize.

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Wanjiru (2017) carried out the study on teacher knowledge on the implementation of inclusive education in early childhood centers in Mwea East sub-county, Kenya. Found out that teachers were not well equipped and prepared to handle learners with diverse needs in the classrooms since they lacked sufficient knowledge and skills, as they portrayed mixed attitudes towards inclusivity. The study concluded that inclusion requires adapted teaching and learning methods, material resources, flexible curriculum, attitude change and modification of infrastructure. This study will fill the gap, by determining ways in which teaching and learning strategies are adapted for sustainability of inclusive education in public primary schools in Nandi East Sub-County.

Research by Mortise (2012), South Africa and Zhu, Li, and Hsieh (2019), Hong Kong focused on teaching and learning strategies in inclusive set ups, except the research by Wanjiru (2017), and Apiyo (2017), hence my study will fill the gap by not only looking at teaching strategies but also the extent of their adaptation in sustaining inclusive set ups. Research by Zhu et al. (2019) was a case study involving one center, the current study involved a larger population of 10 public primary schools hence generalization of results will be more accurate. The gaps identified in the researches by Wanjiru (2017), Apiyo (2017), and Zhu, et al. (2019) form the basis of my selection of teaching and learning strategies as an objective under study in this research, so as to fill the gaps identified.

Research Methodology

The study adopted a descriptive survey design. The study contains blueprint of the collection, measurement and analysis of data (Kothari, 2008).The study targets 87 public primary schools in Nandi East Sub-County was used for the study. A population of 87 head teachers, 720 teachers and 4054 learners, both with and without disabilities are targeted for the study in public primary schools Nandi East Sub-County Nandi County Kenya. Learners in junior secondary classes domiciled in primary schools did not participate in the study. Random sampling was used to select 12% of the teachers, which was 86 teachers. As for learners random sampling was used to select 12% of the population which was 486 learners. In every sampled school, 7 teachers and 40 learners were selected using random sampling for the study. The raw data to be collected was arranged and coded in

readiness for analysis. Content analysis was used to analyze findings of respondents' views on issues which was not calculated arithmetically, while descriptive statistics was used to analyze closed-ended items.

Results

Teachers' responses on teaching/learning strategies were as enlisted in Table 1.

Table 1: Adaptation of teaching/learning strategies

n=423		VLE	LE	SE	VSE	Mean	Std. deviation
My teaching sessions are interactive	F	28	24	7	10	1.9855	1.05011
	%	40.6	34.8	10.1	14.5		
I allow learners to work together in different groups	F	16	38	11	4	2.0435	.79400
	%	23.2	55.1	15.9	5.8		
I give extra support to Learners with special educational needs.	F	29	22	8	10	1.9855	1.06402
	%	42.0	31.9	11.6	14.5		
I give tasks given in class according to the level of performance and individual need of the learner.	F	27	22	10	10	2.0435	1.06322
	%	39.1	31.9	14.5	14.5		
Teaching methods are adapted according to different age groups.	F	22	27	11	9	2.1014	1.00213
	%	31.9	39.1	15.9	13.0		
I do a lot of writing on the chalkboard for the sake of learners with hearing impairment.	F	48	14	3	4	1.4638	.83278
	%	69.6	20.3	4.3	5.8		

Source: Field Data (2023)

The study sought to determine whether teaching sessions were interactive, 52 (75.4%) revealed to a large extent while 17(24.6%) small extent. Interactive teaching sessions was further established to affect sustainability of inclusive education with (mean=1.9855, std. Dev.=1.05011). The study is in agreement with that of Zhu, Li, and Hsie (2019) that interactive teaching sessions affect sustainability of inclusive education. The respondents were asked whether they allowed learners to work together in different groups, 54(78.3%) to a large extent and 15(21.7%) to a small extent. Allowing learners to work together in different groups was further established to affect sustainability of inclusive education with (mean=2.0435, std. Dev.=.79400). The findings are in-tandem with those of Florian, and Black-Hawkins (2011) that allowing learners to work together in different groups affect sustainability of inclusive education.

The study also sought to determine whether the respondents give extra support to Learners with special educational needs, 51(73.9%) large extent while 18(26.1%) small extent. Giving extra support to Learners with special educational needs was further established to affect sustainability of inclusive education with (mean=1.9855, std. Dev.=1.06402).The study by Apiyo (2017) also revealed that giving extra support to learners with special educational needs affect sustainability of inclusive education. In regards to whether tasks given in class are given according to the level of performance

and individual need of the learner, 49(71.0%) large extent while 20(29.0%) small extent. Tasks given in class which are given according to the level of performance and individual need of the learner was further established to affect sustainability of inclusive education with (mean=2.0435, std. Dev.=1.06322). The study agrees with that of Motitswe (2012) that tasks given in class which are given according to the level of performance and individual need of the learner affects sustainability of inclusive education.

In relation to whether teaching methods are adapted according to different age groups, 49(71.0%) large extent while 20(29.0%) small extent. Teaching methods adapted according to different age groups was further established to affect sustainability of inclusive education with (mean=2.1014, std. Dev.=1.00213). The study agrees with that of Wanjiru (2017) that teaching methods adapted according to different age groups affects sustainability of inclusive education. In regards to whether a lot of writing is done on the chalkboard for the sake of learners with hearing impairment, 62(89.9%) large extent while 7(10.1%) small extent. Doing a lot of writing on the chalkboard for the sake of learners with hearing impairment was further established to affect sustainability of inclusive education with (mean=1.4638, std. Dev.=0.83278). The study by Apiyo (2017) also revealed that doing a lot of writing on the chalkboard for the sake of learners with hearing impairment affects sustainability. The respondents were also asked to indicate to what extent they used the following teaching/learning strategy in class. Findings were as presented in Table 2.

Table 2: Teaching/learning strategy

n=69		VLE	LE	SE	VSE	Mean	Std. deviation
Individualized Education Program (teacher uses a written education plan designed to individual learner	F	25	28	6	10	2.0145	1.02172
	%	36.2	40.6	8.7	14.5		
Collaborative planning and teaching (teacher receives information from other school professional, parents and plan or lessons that cater for individual needs.	F	25	30	7	7	1.9420	.93752
	%	36.2	43.5	10.1	10.1		
Pull-out model (teachers pull students out of their general education classes and work with them in small, individualized groups)	F	20	35	8	6	2.0000	.87447
	%	29.0	50.7	11.6	8.7		
Co-teaching (two educators work together to plan, organize, instruct and make assessments on the same group of students, sharing the same classroom	F	24	26	9	10	2.0725	1.03354
	%	34.8	37.7	13.0	14.5		

Source: Field Data (2023)

The respondents were asked whether Individualized Education Program that is, the teacher uses a written education plan designed to individual learner, 53(76.8%) revealed to a large extent while 16(23.2%) small extent. Use of a written education plan designed to individual learner by the teacher was further established to affect sustainability of inclusive education with (mean=2.0145, std. Dev.=1.02172). Findings are in-tandem with that of Motitswe (2012) that use of a written education plan designed to individual learner by the teacher affects sustainability of inclusive education. In

regards to whether collaborative planning and teaching that is, teacher receives information from other school professional, parents and plan or lessons that cater for individual needs, 55(79.7%) large extent while 14(20.3%) small extent. The teacher receiving information from other school professional, parents and plan or lessons that cater for individual needs was further established to affect sustainability of inclusive education with (mean= 1.9420, std. Dev.= .93752). The study is in agreement with that of Zhu, et al. (2019) that teacher receiving information from other school professional, parents and plan or lessons that cater for individual needs affects sustainability of inclusive education.

In regards to pull-out model (teachers pull students out of their general education classes and work with them in small, individualized groups), 55(79.7%) revealed to a large extent while 14(20.3%) to a small extent. Pull-out model (teachers pull students out of their general education classes and work with them in small, individualized groups) was further established to affect sustainability of inclusive education with (mean= 2.0000, std. Dev.= .87447). Findings resemble that of Wanjiru (2017) that Pull-out model (teachers pull students out of their general education classes and work with them in small, individualized groups) affects sustainability of inclusive education.

In relation to co-teaching (two educators work together to plan, organize, instruct and make assessments on the same group of students, sharing the same classroom), 50(72.5%) large extent while 19(27.5%) small extent. Co-teaching (two educators work together to plan, organize, instruct and make assessments on the same group of students, sharing the same classroom) was further established to affect sustainability of inclusive education with (mean= 2.0725, std. Dev.= 1.03354). The study by Apiyo (2017) also revealed that co-teaching (two educators work together to plan, organize, instruct and make assessments on the same group of students, sharing the same classroom) affects sustainability of inclusive education. Learners' responses on teaching/learning strategies were as presented in Table 3.

Table 3: Learners responses on Teaching/Learning strategies

		Frequency	Percent
Class teachers assist everyone without discrimination	Agree	302	71.4
	Disagree	121	28.6
Total		**423**	**100.0**
Teachers' pay more attention to learners with special needs in the class/school	Yes	348	82.3
	No	75	17.7
Total		**423**	**100.0**

Source: Field Data (2023)

The respondents were asked to state whether class teachers assist everyone without discrimination, 302(71.4%) agreed while 121 (28.6%) disagreed. Learners were asked whether teachers' pay more attention to learners with special needs in the class/school. A total of 348(82.3%) respondents stated yes while 75(17.7%) No. This implies that majority of the Teachers' pay more attention to learners with special needs in the class/school.

Conclusion

The study established that interactive teaching sessions affect sustainability of inclusive education. Allowing learners to work together in different groups affect sustainability of inclusive education. Giving extra support to Learners with special educational needs affect sustainability of inclusive education. Tasks given in class which are given according to the level of performance and individual need of the learner affect sustainability of inclusive education. Teaching methods adapted according to different age groups affect sustainability of inclusive education. Doing a lot of writing on the chalkboard for the sake of learners with hearing impairment affect sustainability of inclusive education. Use of a written education plan designed to individual learner by the teacher affect sustainability of inclusive education. The teacher receiving information from other school professional, parents and plan or lessons that cater for individual needs affect sustainability of inclusive education. Pull-out model (teachers pull students out of their general education classes and work with them in small, individualized groups) affect sustainability of inclusive education. Co-teaching (two educators work together to plan, organize, instruct and make assessments on the same group of students, sharing the same classroom) affect sustainability of inclusive education. Conclusively, teaching learning strategies adapted affects sustainability of inclusive education. Sustainability of inclusive education is enhanced when interactive teaching sessions are adapted, when learners are allowed to work together in different groups, when extra support is given to Learners with special educational needs, tasks are given in class which are given according to the level of performance and individual need of the learner and when teaching methods adapted are according to different age groups.

Recommendations

On teaching learning strategies, the study recommended that interactive teaching sessions should continue being adapted if sustainability of inclusive education is to be enhanced. Learners should continue being allowed to work together in different groups, and extra support should continue being given to Learners with special educational needs. Sustainability of inclusive education will be enhanced when tasks given in class are given according to the level of performance and individual need of the learner. Teaching methods adapted should be according to different age groups for sustainability of inclusive education to be enhanced. A lot of writing on the chalkboard for the sake of learners with hearing impairment should continue being adapted, and a written education plan designed to individual learner by the teacher should continue being used. Teachers should continue to receive information from other schools, professional, parents and plan or lessons that cater for individual needs. Teachers should continue to pull students out of their general education classes and work with them in small, individualized groups. Two educators should work together to plan, organize, instruct and make assessments on the same group of students, sharing the same classroom.

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