

Inclusive education for learners with intellectual disability in public primary schools-Kenya

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Abstract

The move towards inclusive education remains elusive. There is dramatic difference in the educational opportunities provided for children with Intellectual Disability (ID) and without ID. In rural and Peri-urban areas of Kenya only 15% of children with ID are included in regular schools. A descriptive cross sectional survey was undertaken to identify factors influencing inclusion of children with ID in regular classrooms by teachers. The study adopted a mixed method approach and multi-stage random sampling technique. Quantitative data was analysed using statistical package for social scientists (SPSS) version 20.0. Manifest content analysis was used for qualitative data. The overall inclusion rate was (38.1%), however a few teachers 38.5% [81] adjusted lessons to suit ID pupils while 26.7% (56) offered individual attention to ID pupils. Teachers whose schools used medical report for admission were five times (AOR 5.567, 95% CI 0.728-5.556, P=0.018) more likely to include pupils with ID than teachers whose schools had no clear admission criteria. Concerning the assistance offered by teachers to children with ID in the class, teachers who offered individual pupil support and those who organized peer tutorial were highly associated with inclusion (AOR 71.697, 95% CI 1.899-4.989, P=0.029) and (AOR 25.9111, 95% CI 1.102-8.685, P=0.003) than respondents who did nothing supportive. Parents' involvement in inclusion, number of pupils with ID in the class, enrolment criteria, and environment adjustment, and policy adoption, willingness of the school administrators to include ID children, curriculum flexibility, Funding and availability of adequate teaching facilities are central factors to the inclusion. Support, supervision, and coordination with special education teacher were other factors. The study revealed high number of ID pupils in regular classrooms but inclusive education remains elusive. This is due to non-adjustment of lessons to fit the needs of ID pupils and failure to have an individual education plan for ID pupils in classrooms. The implementation of successful inclusion is a complex issue involving key players such as policy makers, parents, teachers, pupils and school administration. Therefore, this study calls for the development a clear contextualized inclusion guideline tailored for public schools.

Keywords: Inclusive education, Intellectual Disability, teachers' perception

1. Introduction

Education of students with disabilities is one of the most important issues facing global school system [1]. Teachers have been assumed to play a vital role, whereby their roles are seen as a major element that can either include or exclude children with special education needs in inclusive schools. The move towards the inclusion of children with intellectual disabilities (ID) from the previous segregation in special schools into mainstream education has been a feature of many African countries education systems since the adoption of the Dakar Framework of 2000. The framework, established the goal to provide every child with primary school education by 2015 [2]. Inclusion refers to situations in which a pupil with a disability is "embedded within the normative educative pathways within the classroom and the school" [3], and in which the regular classroom teacher is responsible for the student's education.

Globally, 26 million children with ID experience inclusion challenges [4]. The World Health Organization (WHO) report of 2004, points out that 45% of children with ID in developing countries are excluded from school [5]. Despite the global estimate that 70% of children with ID can be included in regular School [6], only 20% of children with ID have been

included in regular primary schools in Kenya [7]. In rural and peri-urban areas like Githunguri-Kenya, only 15% of children with ID have been included in regular schools [8] far below the global estimate of 70% [6]. This is despite teachers' awareness campaign run by the district education office. This kind of segregations leads to a dominant problem in the disability status of children with ID [9]. To compound this 12% of the ID children drop out of school, leaving only 3% who complete primary education [8].

The importance of inclusion cannot be emphasized. Available literature shows that all children gain through inclusion. Studies indicate that given proper guidance students can learn in inclusive settings to understand, respect, be sensitive to, and grow comfortable with the individual differences and similarities among their peers [10]. There are many non-handicapped persons who realise a tremendous range of emotional and social benefits from their involvements with persons who experience severe handicaps [11]. Advocates for inclusion also contend that segregated education leads to segregation in adult life and that inclusion in education has the opposite effect. The assertion here is that positive attitudes toward people with disabilities are developed when disabled

and non-disabled children interact at school and that these attitudes are sustained in adult life [10]. Inclusion in education has also been portrayed as a human rights issue; the principle is that every child has a right to be educated in an ordinary classroom in a regular school [11].

There has been extensive research into aspects of inclusive education in other areas, majority of which applied quantitative methodologies [12-14]. Therefore, there is increasing calls for more mixed method of research [15], as applied in this study. Moreover research of this kind is needed to gain a greater understanding of the phenomenon of inclusive education from the perspectives of the people involved (teachers and school administrators) in their natural settings. Children with ID are taught in a variety of educational settings by teachers from a wide range of backgrounds [13]. Teachers practice is a crucial factor that impacts on how inclusive practices are implemented [14]. Given that the outcomes of inclusion initiatives depend on the beliefs, values, practices and attitudes of teachers [16]. This study was necessary in study context to get a greater and clear understanding of what teachers practice, think and believe about this phenomenon and how these thoughts and beliefs change over time.

2. Material and methods

The study was a descriptive cross sectional study using mixed method approach (qualitative and quantitative). The study population were regular and full time public primary school teachers, in the study area, one year preceding the survey. Standard Fisher's sampling method was used to determine the sample size. The study adopted multi-stage random sampling technique. A list of all zones (first stage) and respective schools (second stage) was compiled, and then simple random selection was applied to select participating units/ schools. Samples were proportionately allocated per zone and selected schools. A sampling frame was developed from the staff register and the first name on the register was selected. Thereafter an interval was observed based on the number of teachers in the school. Three instruments were used to collect data namely; semi-structured teacher's questionnaire, Key Informant Interviews (KII) guide and FGD guide. The questionnaire was used to seek information on the teachers' characteristics, school institution and social-cultural factors whereas KII guide was used to find out the challenges and problems related to teachers' implementation of inclusive education in relation policy on inclusive education, structures, any reforms made, the experiences in managing and recommendations to improve inclusive education to benefit intellectually disabled pupils. A structured group discussion guide was formulated to gather information on the knowledge, attitude and practice of teachers. The study was piloted and the research instruments corrected accordingly thereafter. This was to ascertain reliability and validity of the study tools. Content validity was checked by ensuring that the data collected is consistent with the conceptual framework and the objectives of the study. The research was recruited and trained on interview techniques, data collection and data processing. The quantitative data was coded, cleaned and analysed using statistical package for social scientists (SPSS) version 20.0. The data is presented descriptively and inferentially. The Alfa value was a p value < 0.05. Manifest content analysis was used for qualitative data by merging codes from key emerging issues

to categories then themes from which conclusion and generalization were formulated reflecting the study objectives. Most scholars and writers in the area of education would agree that inclusive education is not an end point. It is a process. In this study, the term inclusive education was based on Booth (1996) who discusses inclusion as a process of increasing participation of pupils within and reducing their exclusion from the cultures of curricular and school activities by the teachers [17]. The goal of inclusive education is to break down the barriers that separate general and special education and make the included students feel like, and actually become an active member of general education classroom [18]. The study used three key indicators to rate inclusion: teacher has an ID pupil in class, teacher has individual education plan for ID pupil and the teacher adjusts the lesson plan to suit the ID pupil. A code of one was allocated to every service offered (yes=1) and zero for none (no=0). A dichotomous outcome (inclusion) was computed by scoring the three target variables where one meant yes and zero meant no for inclusion. The overall results were computed for all the questionnaires and aggregate average results in percentage for yes meant inclusion services while no meant no inclusion. The study was approved by the Great Lakes University of Kisumu (GLUK) academic ethical committee and The National Commission for Science, Technology and Innovation - Kenya (NACOSTI). Written consent was obtained from the respondents and all information obtained from participants was treated with confidentiality.

3. Results

3.1 Inclusion practice among the study respondents

The overall inclusion rate in this study was low (38.1%). However majority (81.4% [171]) of the respondents had pupils with ID in their classrooms but a few (38.5% [81]) adjusted lessons to suit ID pupils while 26.7% [56] offered individual attention to ID pupils. The role of parent is central in school activities and in this study over 72.2% (160) of the respondents said their schools involve parents in inclusion. The parents were mostly involved during children's homework (36.2%), assessment (15.1%), community awareness campaigns (11.9%), and enrolment (12.9%). Statistically, parents involvement in school implementation of inclusion was significant ($\chi^2=12.452$, $df=4$, $p=0.014$). Training of Teachers in special education was low 17.6% (37) however, it was noted that 80% of the respondents who had had training for only three months were associated with inclusion compared to 32% who had training for two years. Training ($\chi^2=6.543$; $df=3$; $p=0.084$) was not statistical significant to inclusion. The average number of pupils per class was 30-50 however this was not statistical significant ($\chi^2=4.636$ $df=2$ $p=0.098$). The number of ID pupils in class influenced inclusion ($\chi^2=17.538$ $df=4$ $p=0.002$) and Inclusion was dependent on the school enrolment criteria ($\chi^2=17.581$; $df=4$; $p=0.006$).

Majority 48.1% (101) of the respondents felt that their school has not made any adjustments to support inclusion. Thirty-five point seven percent (35.7% [75]) felt that the school had adapted inclusion process partially and 8.1% (17) fully. School environmental adjustments was statistically significant to inclusion ($\chi^2=11.815$; $df=3$; $p=0.007$). Where environment adjustment was fully done inclusion was high at 58.8% as opposed 26.7% for where there was no adjustment. This finding was in tandem with qualitative finding emphasized the

importance of environmental adjustment. For example one KII summarized that; *environment adjustment is not adequate in most Schools. Some have classes upstairs which may be a challenge to ID children. Some schools are built in very uneven terrain; pavements have no ramps with rails, while the sitting arrangement in the classes doesn't facilitate good interaction between the teacher and the ID pupil.* Policy adoption by the school was statistically significant ($\chi^2=15.068$; $df=2$; $p=0.001$) to inclusion. More than half (53.4% [47]) of teachers whose schools have adopted the policy were associated with inclusion compared to only 26.8% (22) whose schools had not adopted inclusion policy. Lack of support was the key reason why policy is not fully implemented as expounded by one KII: *Policy is not fully implemented in most schools because of lack of full government support. Government doesn't fund regular schools to facilitate inclusion of ID children in the school. It only funds special schools and schools with special units. Regular schools do not have enough teaching and learning facilities. Government doesn't send enough money to buy enough teaching and learning facilities, yet teachers are expected to implement inclusion in regular schools successfully.*

Willingness by School administrators is central pillar in Inclusion and from the 210 respondents who participated, 18 (8.6%) strongly agreed with the proposition that there is the willingness by the administrators to embrace inclusion, 89 (42.2%) agreed, 62 (29.5%) disagreed and 41 (19.5%) strongly disagreed. The study shows a strong relationship between school administration goodwill and inclusion ($\chi^2=24.894$, $df=3$, $p<0.000$). The study enquired from the respondents on whether the curriculum was flexible to facilitate inclusion. Majority (84.8%) felt that the curriculum was not flexible to facilitate inclusion of children with ID in the regular classroom. Curriculum flexibility ($\chi^2=6.373$, $df=2$, $p=0.041$), was statistically significant to inclusion. This finding was corroborated qualitative finding. For example a FGD discussant that summed; *Curriculum is not flexible to facilitate inclusion. In fact the curriculum doesn't favour ID pupils. Some children need to be taught activities of Daily Living (ADLS)/ independent living skills. Moreover, the current curriculum does not cater for inclusion compounded by school/teachers target to complete the syllabus given which is time limited. Curriculum is not adapted to suit them since they take longer time to understand some concepts as compared to other children. Moreover, the teachers do not have enough time to adapt to the curriculum.*

Funding was reported as a key challenge with an overwhelming majority (61%) of the respondents reporting that their schools received no funds, 25% received from the Government, and 10 % were not sure, while 4% received from the parents. However source of funds was not significant ($\chi^2=7.581$, $df=3$, $p=0.052$). The issue of funding was summarized by one key informant: *Government doesn't fund regular schools adequately to facilitate inclusive education. It only funds special schools and schools with special units yet regular schools are the ones expected to implement inclusive education. ID Children are not given any special treatment during funding in the regular schools. To me, this is a contradiction on the part of the government.*

The study revealed that availability of adequate teaching facilities to support inclusion of ID children in class was

statistically significant ($\chi^2=14.788$ $df=3$, $p=0.002$) to inclusion. However this was contrasted by the qualitative finding as explained in this verbatim report from one of the FGD participants; *Teaching and learning facilities are not adequate to cater for ID children, yet the teachers are expected to implement inclusive education. Learning facilities are supposed to be shared in the ratio 1:2 but most schools go to an extent of sharing them in the ratio 1:5 or even 1:6. Government doesn't send enough money to buy enough teaching and learning facilities. Teachers have to improvise to at least get a few teaching facilities like charts yet these children learn best when provided with visual aids. Most of the teaching facilities are provided to the special schools and school with special units.*

Majority (89% [187]) of the schools did not have a special unit and school having special unit were not associated with inclusion ($\chi^2=0.120$ $df=1$, $p<0.729$) however coordination and support by special education teacher important factor to inclusion ($\chi^2=10.275$, $df=4$, $p=0.034$). This finding however differentiated by findings from consultative discussion with a KII saying, *Teachers with special education are given lessons to teach the regular classes just like other teachers; therefore, they cannot have time to brief the other teachers on inclusion of children with ID in the class or even to follow them up in the regular classes. Other teachers are also racing against time to complete the syllabus in time and issues of the ID children are not a priority to them.* Support supervision of the teachers by the head teachers was statistically significant ($\chi^2=18.611$, $df=4$, $p=0.001$) to inclusion. One KII from qualitative perspective elaborated the significance of supervision as *Supervision is done as a whole for the school with no special attention given to ID children. Support supervision is a challenge to us administrators because we are expected to give support to the teachers, yet we are not experts on inclusive education. In fact some teachers with special education training are better equipped with knowledge than administrators".* Most respondents felt competition and lowering of school mean score (47%), was the main challenge that faced schools as they included ID children followed by lack of teaching facilities at 35%, negative attitude from teachers at 15% and inadequate teachers training at 3%. These challenges were summarized by a KII reported that, *These intellectual disability pupils bring the school down by lowering the mean score. Lowering mean score is a major challenge and a hindrance to inclusion. It leads to poor school performance. We would rather not have these ID children in our school. They are a threat and a challenge to the teachers as well as school performance. Given the choice, teachers would not take the child with ID in their classes. When teachers explain that their mean score is low because of having children with ID in their classes they are told they are not performing. Worst still, the headmaster is demoted if the school does not perform. The current evaluation criteria of using exam to cadge success is not friendly to inclusive education. The system value academic shining rather holistic education. We want good results in the Kenya Certificate of Primary Education".*

3.2 Multivariate Analysis

A multivariate logistic regression analysis using the backward conditional method was performed on multiple factors to eliminate confounding factors and examine the effect of the six

predictive factors which significantly associated (independently) with inclusion of ID children at bivariate analysis. Three factors were found to predict with inclusion of ID children and three others were confounding factors (coordination, parents' role and policy). Teachers whose schools used medical report for admission were five times (AOR 5.567, 95% CI 0.728-5.556, P=0.018) more likely to include pupils with ID than teachers whose schools had no clear admission criteria. Concerning the assistance offered by teachers to children with ID in the class, teachers who offered individual pupil support and those who organized peer tutorial were highly associated with inclusion (AOR 71.697, 95% CI 1.899-4.989, P=0.029) and (AOR 25.9111, 95% CI 1.102-8.685, P=0.003) than respondents who did nothing supportive

Table 10: Multivariate Analysis Results for Independent Variables (n=210)

Variables	Levels	Exp(β)	95% CI		P value
			SE	Wald	
Enrolment Criteria	Application	0.237	1.534	0.880	0.348
	Examination	2.536	0.528	3.109	0.078
	Medical report	5.567	0.728	5.565	0.018
	Special assessment	0.892	0.582	0.043	0.835
	None	Ref	-	-	-
Assistance to ID Children	Individualized help	71.697	1.899	4.989	0.026
	Peer tutorial	25.911	1.102	8.685	0.003
	Private tuition	7.761	1.519	1.799	0.178
	None	Ref	-	-	-

Abbreviations: CI, confidence interval; Exp (β) (AOR), adjusted odds ratio; Significant odds ratio values (adjusted) in bold. Dependent variable: (0 = yes (inclusion), 1 = No (non-inclusion)).

4. Discussions

Inclusion of ID pupils was low (38.1%) in this study despite a high percentage of ID pupils in classes. This was because, only few teachers adjust lessons to suit ID children or offer individual education plan to them. This shows that teacher's inclusion practice is inadequate. This conclusion is consistent with statement that the success of inclusion is reliant upon preparing general education teachers to be competent in meeting the needs of all their students including those with disabilities [19].

4.1 Factors that influence Inclusion of ID Children

Involvement of parents by schools in the implementation of inclusion in the regular classrooms is high and significant. The parents support in children's homework, assessment, community awareness campaigns and enrolment. The significance could be attributed to the support, collaboration, and encouragement the teacher receives from a parent. This finding chimes with Muwana who said that the status and inclusion of a person within a community is determined by his or her family and kinship ties [20]. It however, contrasts with Konza who reports that parents are not always satisfied that their children are being offered the best education when teachers spend additional time and resources on students with special needs [21]. This may causes further tension in the school community, and can result in principals being reluctant to enroll students with disabilities.

Special education training was low and not statistical significant. This may be because the training did not influence the teachers' attitudes and confidence. These findings resonate

with Nagata (2005) who asserts that a single subject dealing with inclusion cannot properly prepare beginning teachers to execute the multitude tasks associated with inclusive practice, as well as cope with the demands of an inclusive classroom [22]. It disagrees with Stella *et al.* who reported very little change in teachers' attitude towards inclusion following their study of a brief instructional module based on inclusive philosophy and inclusive practices [23]. Similarly, period of special education was not significant to inclusion. However, majority of teachers trained for three months were associated with inclusion compared to a third of those who had training for two years. This may be because this was a specifically designed inclusive program to raise awareness among teachers. This finding agrees with Coombs-Richardson and Mead results that short training makes educators aware of themselves, their colleagues and the individual needs of their students [24].

The Teacher/pupil ratio in the class was associated with inclusion. This finding contradicts with a study by Rezk el-ashry which evidences that teachers might be willing to accept students with disabilities in their classrooms if class size was controlled [25]. The number of ID children in the class was important to inclusion. This finding may be as a result of teachers not having enough time to offer individual attention or adapt the lesson for many ID children due to the overwhelming workload of teaching the other children without disabilities in the same class. Scruggs and Mastropieri reported that general educators believed that reducing class size to fewer than 20 students would facilitate inclusion efforts [26]. Other studies conclude that when general education classrooms have a large number of students with disabilities, teachers may possess more negative perspectives regarding the inclusion of students with disabilities [27].

Schools enrol ID pupils using different admission criteria ranging from teacher's assessment report; sitting examination, medical report and formal application. School enrolment criteria were significant. Positive inclusion trend was observed from schools that used medical report; sit in examination and special teacher assessment report. Furthermore in multivariate analysis teachers whose schools used medical report for admission were five times more likely to include ID pupils than teachers whose schools had no clear admission criteria. This finding corroborates well with National Council for Special Education that observed that timely and appropriate identification and assessment are important factors in ensuring that appropriate intervention commences as soon as is feasible [11]. However, Desforges and in a review of the procedures for the diagnosis of a disability and the assessment of special needs education in seven countries concluded that assessment of students with special educational needs should not be regarded as a once-off diagnostic event but rather as an on-going process closely linked to intervention [10]. Adjustment of school environment is a key factor to inclusion denoting an association in the adjustments of the class environment to inclusion. This result of the study is consistent with Villa, *et al.* that a successful inclusive environment provides opportunities for collaboration and professional development which in turn educate staff on specific skills and knowledge regarding inclusive education [28].

Policy adoption was another factor with positive trend from schools which adopted the policy. This result may be due to the conducive environment created by the schools that adopt inclusion as opposed to the schools which do not adopt the

inclusion policy. This is consistent with Chitiyo and Chitiyo which reported that lack of legislative framework affects the development of inclusive education [29]. Willingness by the administrators to include ID children in school was positively associated with inclusion. Teachers who agreed that administrators are willing to embrace inclusion were associated with inclusion and the opposite was true of those who had dissenting opinion. This could be attributed to support and encouragement the administrators offer to teachers with ID children in the classrooms. The opposite would be true for those administrators who are not willing. This finding relates well with Cook *et al.*, using the regular education initiative teaching survey, which surveyed 49 principals and 64 special education teachers to assess their attitudes on inclusion and found out that principals have stronger support for the idea that included students improve their academic achievement [30]. Strong leadership has been identified as one of the factors in creating a successful inclusion program [31]. Stanovich and Jordan says that in order to contribute to successful teaching practices when including student with disabilities, the influence of a principal is an important factor. Without sufficient administrative support, including students with disabilities may result in failure (Heflin and Bullock, 1999). An overwhelming majority of the respondents felt that the curriculum was not flexible to facilitate inclusion in the regular schools. Curriculum flexibility was statistically associated with inclusion. This finding is in agreement with Stanovich and Jordan who stated that effective inclusion involves general education teachers adapting and modifying curriculum and instruction to meet the needs of all their students including students with disabilities [19]. Inadequate teacher aid time and curriculum support in the form of modified materials were highlighted by a number of researchers [14, 33].

Funds to purchase adequate teaching facilities remain a key issue according to the majority of the respondents. Availability of adequate teaching facilities to support inclusion was statistically significant. This conforms to other previous researches which have documented the relationship between teachers' commitment to inclusion and the resource support they receive [34, 35]. Majority of the schools did not have a special unit in their respective schools, though this was not statistically significant. This is in tandem with earlier research findings like Basic Needs, Basic Rights that seem to agree that indeed isolation curtails Children with disability retention in schools [11]. However, they differ with Westwood & Graham who underlined isolation as a crucial factor [33].

5. Conclusion

The study revealed high number of ID pupils in regular classrooms but inclusive education remains elusive. This is due to non-adjustment of lessons to fit the needs of ID pupils and failure to have an individual education plan for ID pupils in classrooms. Parents' involvement in inclusion, number of pupils with ID in the class, enrolment criteria, and environment adjustment, and policy adoption, willingness of the school administrators to include ID children, curriculum flexibility, Funding and availability of adequate teaching facilities are central factors to the inclusion. Support supervision by administrators, coordination with special education teacher as management's practices and peer tutorial were are other factors. However special education training, period of training, Teacher's ability to recognize ID children, teachers' perceived

education setting suited for ID children and special unit in schools did not affect inclusion.

6. Recommendations

From this study the implementation of successful inclusion is a complex issue involving key players such as policy makers, parents, teachers, pupils and school administration. Therefore, this study calls for the development a clear contextualized inclusion guideline tailored for public schools. Since performance and results are key drivers in public schools, this study proposes enhancing the development of training program to change the mind set of teachers. There is need to conduct a similar study targeting pupils as the respondents to understand their perception on their peers with ID challenge.

7. Declaration of conflicting interests

The author(s) declares no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

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