

**INFLUENCE OF SPECIAL NEEDS TEACHERS ON MAINSTREAMING OF
LEARNERS WITH ASD IN PUBLIC PRIMARY SCHOOLS IN KIRINYAGA
CENTRAL SUB- COUNTY, KIRINYAGA COUNTY, KENYA**

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Abstract

Educational dynamics play an important role in the mainstreaming of learners with Autism Spectrum Disorders (ASD) into regular classrooms. However, in Kirinyaga Central Sub-county, this is not the case since the number of learners with ASD in public primary schools is low. The purpose of this study was to assess the influence of special needs teachers on mainstreaming of learners with ASD in public primary schools. The study was guided by the dynamic theory of school factors. The study applied mixed methodology and thus adopted concurrent triangulation research design. The target group consisted of 1276 respondents, including 52 headteachers, 104 special education teachers, and 1120 learners with ASD. A sample of 304 respondents was selected using Yamane's Formula. Questionnaires were used to collect data from special needs teachers, interview schedules were used to collect data from headteachers whereas observation checklist was used to collect data from learners with ASD. Qualitative data was processed and presented in a narrative style. Quantitative data was analyzed descriptively with frequencies and percentages and inferentially with Correlation Analysis using Statistical Packages for Social Sciences (SPSS 25) and presented in tables. The study established that the number of learners with ASD enrolled in public primary schools is very low due to the inadequate number of special needs teachers. Thus, the study recommends that the Ministry of Education, through school heads, should recruit more trained special needs teachers in public primary schools.

Keywords: *Special Needs Teachers, Mainstreaming, Learners with ASD, Public Primary Schools*

INTRODUCTION

According to American Psychiatric Association [APA] (2013), Autism Spectrum Disorder (ASD) is a complex developmental condition involving persistent challenges with social communication, restricted interests and repetitive behavior. While ASD is considered lifelong disorder, the degree of impairment in functioning varies between individuals. Autism Spectrum of Disorder was first reported by Kanner and Asperger in 1943-1944. Mainstreaming of learners with ASD in the context of education is the practice of placing the learners in general education settings or regular schools (IBE-UNESCO, 2008). The goal of mainstreaming is to promote inclusion, understanding, and acceptance among all students,

while also recognizing and supporting the diverse learning needs of students with ASD and other disabilities.

According to the Diagnostics and Statistical Manual of mental disorders (DSM-5) as stated by the American Psychiatric Association (2013), ASD is categorized by doctors as level 1, 2 or 3 according to the two areas of functioning- social interaction and restricted repetitive behaviors. Level 1 is the mildest or highest functioning form of ASD also known as Asperger's. It includes those who would have previously been diagnosed with Asperger's syndrome. Children in level 1 may understand and speak in complete sentences though may experience some inflexibility of behavior. Children with ASD level 2 have challenges in verbal and nonverbal communication as well as reduced or abnormal responses to social cues. Children with ASD level 3 experience severe challenges in social communication as well as extremely inflexible behavior. Children at this level will be nonverbal or have the use of only a few words of intelligible speech.

The study focuses on children with ASD level 1 highest functioning or the mildest level of ASD. This is because the learners at this level follow a regular curriculum with modifications. This level also has a high prevalence of 0.63 % (Mamah et al., 2022). The prevalence of ASD is on the rise currently. In 2020, an estimated one in 36 eight- year old had ASD up from one in 44 in 2018. The prevalence was roughly 4% in boys and 1% in girls (Salari et al., 2022). Education constructively impacts learners' minds, character traits and physical abilities. According to UNICEF (2013), education is viewed as the process through which every society intentionally imparts knowledge, skills and values from generation to generation including learners with autism spectrum disorder. To realize this, educational dynamics come into play. Rosenketter, Hains and Fowler (2013) define education dynamics as a multiplicity of factors within and without a school microsystem which enhances the realization of education and curriculum objectives. In the Netherlands, education dynamics include but are not limited to, instructional resources, physical facilities and above all, availability of trained special needs teachers (Stoll, Bolam & Collarbone, 2011). However, much is yet to be done to interrogate the extent to which such dynamics influence mainstreaming of learners with ASD.

For learners with autism spectrum disorder (ASD), mainstreaming entails placing them in age-appropriate general education classes in their neighbourhood schools where they can receive high-quality instruction, interventions and supports that help them succeed academically in the core curriculum (Early, Pianta, Taylor and Cox, 2010). In such cases, learners with ASD undertake similar lessons, and examinations and are subjected to similar assessment tools (Early et al, 2010). Despite these assertions which highlight practical recommendations for mainstreaming of learners with ASD in general education settings, there continues to be tremendous variability in the type and quality of programming delivered to such learners.

In Kuala Lumpur, for example, Special needs teachers, according to Lombardi (2012), are critical to the mainstreaming of ASD learners by using a diverse of practices to identify learners with autism spectrum disorder (ASD) and help them adapt to new lifestyles within the integrated school setting. Anitha and Maithreyi (2012) say that when learners with ASD are integrated into the classroom, teachers look at how each of these symptoms can range from mild to severe. In India, for example, a learner with ASD might not have much trouble learning to read, but they might be very bad at getting along with other people. In China, Dai, Steenbergen-Hu and Yang (2016) assert that learners with ASD frequently fell and think distinctively due to the dynamics within and around their microsystem. Dai et al (2016)

further note that ASD learners may react more intensely to experiences due to their cognitive complexity. In keeping with these assertions, Hattie (2012) describes aspirations for early education as practice wherein mainstreaming of learners with ASD is seen in a holistic way, where teachers adopt a multiplicity of strategies to help them identify such learners. These strategies range from, but not limited to, teaching methods, classroom management practices, use of outdoor activities and parent-school partnerships. However, the extent to which these teacher strategies influence mainstreaming of learners with ASD is not revealed. Cognizant of these assertions, educator resources, according to Hicks (2012), are critical to accomplishing the goals of the education sector and to integrating learners with autism spectrum disorders into regular classes in elementary schools. In New Orleans, Edwards, McNamara and Carter (2012) note that the most important variable in the mainstreaming of learners with ASD is a well-prepared and capable teacher. Such teachers are able to identify learners with ASD by assessing learners with infrequent eye contact, manifest failure to orient to name, do not smile in response to smiles from others, manifest high social and emotional passivity and have a serious fixation on objects (Hicks, 2012).

In most countries in Sub-Saharan Africa, Greene (2014) notes that the process of mainstreaming of learners with autism spectrum disorder has been touted to be inclusive to ensure ASD learners are not discriminated against because of their gender, race, culture, or financial status. However, the express role of teachers, parents, peers and other concerned stakeholders in the mainstreaming process are yet to be defined. In Morocco, McCoach and Siegle (2012) revealed that many teachers consider the mainstreaming process as being the responsibility of parents. Many teachers hold the view that the need for young learners with autism spectrum disorder to explore ideas and themes across disciplines, to engage in projects using multiple media and materials, that is, to be creative, experienced, constructive, imaginative and inventive, is solely the responsibility of their parents, siblings and peers (McCoach & Siegle, 2012). To them, their support is to teach a formally designed curriculum. It is essential for academic programs for the mentally challenged to consider the types of learning experiences learners will have, as well as the content and methodologies used in developing their curriculum (Lombardi, 2012).

In Kenya, the new 2-6-6-3 education curriculum (CBC) was piloted in 2017. The new curriculum replaces the 8-4-4 system of education. According to the Kenya Institute of Curriculum Development [KICD] (2019), the curriculum design for grade 4 was adapted to the needs of learners with special needs including those with ASD. According to the special Needs Education Curriculum model, 2017, learners with the highest functioning Autism follow a regular curriculum with adaptations and intervention programs. Similarly, The Basic Education Curriculum Framework [BECF] (2017) gives provisions for a differentiated curriculum for learners with ASD. Mainstreaming is viewed as a value system which enshrines the entitlement of all learners to equal access to learning, achievement and pursuance of excellence in all domains of their school education (Onsare et al., 2022). Autism Spectrum of Disorders is one of the areas that has been given very little attention in Kenya and more so among education researchers (Onsare et al., 2022). Similarly, Mwendo (2011) states that inclusive education is the process of educating children with ASD in ordinary regular schools by catering for the needs of all children irrespective of their ability and disability through appropriate curriculum, organizational arrangements, teaching strategies, resources use and partnership with communities. As noted from East African Nature and Science Organization (EANSO, 2023), globally there are about 1 in 160 children with ASD while in Kenya it affects approximately 4% of the population. The prevalence of Higher

Autism (H-AUT) was found in 0.63% of adolescents and young adults (Wanjiku Wang'ang'a, 2023).

Repetto and Correa (2012) gave some specific rules for making sure that the curriculum is consistent. These include coordinating the curriculum at every step of the mainstreaming process and having flexible schedules to support the mainstreaming curriculum. Kirinyaga County in general and Kirinyaga Central Sub-county in particular are no exception with mainstreaming of learners with ASD having witnessed numerous challenges. For example, a study by Wangari (2015) shows that primary schools enroll learners with ASD, but at the end of every year, nearly 39.2% of them drop out of school. In the same token, a report by a study by Wanjiru (2017) further indicates that learners in ASD constitute only a paltry 9.3% of the entire primary school population in integrated school settings. However, much is yet to be done to interrogate the extent to which education dynamics influence mainstreaming of learners with ASD; hence the need for the study.

Statement of the Problem

Educational dynamics have a crucial role in the mainstreaming of learners with ASD into regular classrooms. However, in Kirinyaga Central Sub-county, despite the existence of laws and legislations advocating for mainstreaming of learners with ASD, their number in integrated public primary school setting is still low. As noted earlier, a study by Wangari (2015) shows that primary schools enroll learners with ASD, but at the end of every year, over a third of them, (39.2%) fail to finish school. Consistently, a study by Wanjiru (2017) further notes that learners in ASD constitute only a paltry 9.3% of the entire primary school population in integrated school settings. Both studies by Wangari (2015) and Wanjiru (2017) highlight the issue of teacher knowledge and training in inclusive education practices. Teachers may not be adequately prepared to address the diverse needs of students with disabilities, including those with Autism Spectrum Disorders. This gap can hinder the effective implementation of inclusive education in primary schools. A study by Mungai (2015) indicates that there may be challenges in providing necessary support services and resources to support learners with disabilities in inclusive classrooms. This includes specialized services like speech therapy, occupational therapy, and the availability of learning materials tailored to individual needs. Efforts to mitigate this challenge such as the introduction of new legislation on inclusive education, has not yielded much remarkable progress. Despite these figures, there is still more needed to interrogate the extent to which special needs teachers influence mainstreaming of learners with ASD; as a result, the investigation was required.

Purpose of the Study

The purpose of this study was to assess the extent to which special needs teachers influence mainstreaming of learners with ASD in public primary schools in Kirinyaga Central Sub-County, Kirinyaga County, Kenya.

Significance of the Study

Teachers may benefit from this study in creating awareness on matters concerning access to education by learners with ASD. Teachers may further benefit from this study in guiding them to focus on the needs of learners with ASD by use of Individualized Education Program (I.E.P). Teachers may also gain information that will help them assist learners with ASD cope with challenges they meet in their daily lives. Teachers may also benefit from the study as they may be able to counsel the parents of the learners with ASD on the needs of the learners with ASD. Learners with ASD may benefit from the study as their individual needs will be met. Policy-makers and education planners may benefit from this study in forming a

reference point to feed into their developmental plans to address the gaps in educational provision for special needs. Ministry of Education may benefit from this study in ensuring equal opportunities for all learners, especially learners with ASD. Members of the community may benefit from this study in creating awareness on the needs of learners with ASD in society at large. This may help the wider community to understand the needs of learners with Autism Spectrum Disorders and accord them any necessary help. The research could be useful in generating data that can be integrated into current advocacy and lobbying efforts by various teachers focused at improving the study environment of learners with ASD. This work may aid researchers and academicians by creating a solid foundation for individuals interested in conducting research in other related fields.

LITERATURE REVIEW

Empirical Literature

Mainstreaming of learners with ASD entails placing all the learners, in the general education classrooms located in the learners' locality to enable learners with ASD to receive high-quality instruction as well as intervention and support that helps them succeed in the core curriculum no matter their problems. In such cases, Reddy and Ramar (2014) posit that learners with ASD undertake similar lessons, and examinations and are subjected to similar assessment tools. The National Association of State Boards of Education in the United States defines mainstreaming as when learners with disabilities go to their home school with their peers of the same grade and age and get help with their education. Hardman, Drew, and Engan (2013) defined mainstreaming as the process of making sure and giving all learners with ASD equal chances to obtain efficient educational services along with the necessary supplementary aids and support services in local schools.

With an alarmingly low ratio of teachers to learners in developing countries, it is thought that these people's needs may not be met (Fuller & Clark, 2013). Attwood (2013) says that it's important for teachers of learners with special needs to work together so that learners with ASD can reach their educational goals. To plan their education, it's important to know if a student has ASD, how long he or she will be placed there, if there will be multi-disciplinary services, and how the student will be brought into the mainstream. Sitlington, Clark, and Kolstoe (2010) say that trained and competent teachers, social workers, and other education teachers are the main factors that help learners with ASD be included in the regular school system. Maxwell and Eller (2010) have said that when putting learners with ASD into the regular school system, teachers should focus on practices that are responsive to the context rather than teaching learners with ASD-specific skills to deal with their mainstreaming. Schools have a duty to give all learners with ASD a free public education that meets their needs (Pierangelo & Giuliani, 2012).

Donegan, Fink, Fowler, and Wischnowski (2013) based on a study conducted in Illinois with 211 respondents to determine the efficacy of instructors on the mainstreaming of learners with ASD, that the most essential factor in such achievement is a well-prepared and competent teacher. The study also revealed that teachers' opinions regarding the mainstreaming of learners with ASD and their comprehension of the obstacles faced by learners with ASD have an effect on the mainstreaming of learners with ASD under their care. The exosystem and macrosystem, according to Donegan et al. (2013), impact the teacher in terms of the curriculum with which he or she must work, as well as the cultural expectations and viewpoints of teaching professionals and their societal obligations.

In Ghana, Ukpokodu (2013) found similar things and said that teachers have ideas about parents and what role they should play when integrating their children into regular

classrooms. The study also said that the best way for teachers to help a student with ASD reach his or her educational and therapy goals is for them to be well-versed and trained in evidence-based teaching and behavior techniques and to use them in inclusive classrooms. As a result, special needs teachers must be knowledgeable of basic characteristics of ASD, relevant evidence-based teaching practices, as well as general tactics for learning within an integrated classroom to guarantee that all learners with ASD thrive.

Theoretical Literature

The Dynamic Theory of School Factors proposed by Kyriakides (2009) guided the research. This idea is based on things that happen at school will have both direct and indirect effects on how well students do in school. Classroom-level characteristics, particularly teaching practice, are predicted to be influenced by school factors. This assumption is based on the findings of success studies, which indicate that the classroom level is more essential than the school and system levels, and on the notion that defining classroom features is a requirement for defining the school and system levels. Consequently, the vibrant theoretical model refers to school-level characteristics that are connected to the same essential themes of mainstreaming ASD learners, teaching, offering learning opportunities, and teaching quality. This concept was utilized by Teddlie and Reynolds (2000) in their study, which indicated that various factors influence student accomplishment. Teddlie and Reynolds (2000) describe a four-tiered dynamic model that emphasizes the teaching and learning scenario and examines the roles of both the teacher and the student. This model is multi-tiered in nature. Additionally, the dynamic model includes school-level difficulties above these two levels. By affecting the establishment and evaluation of the school's teaching and learning environment policies, these elements are thought to impact the teaching-learning situation. The greater educational environment in which students, teachers, and institutions are expected to work has an impact on the teaching and learning process as well.

METHODOLOGY

This study used a mixed methodology approach that included both quantitative and qualitative methods. This study employed a concurrent triangulation design due to its single-phase design that allows for the equal use of quantitative and qualitative methods simultaneously. This method comprises gathering and evaluating quantitative and qualitative data simultaneously, but in various ways, in order for the researcher to completely grasp the research problem (Creswell, 2014).

The research was carried out in Kirinyaga County's Central Sub-County. The target group consisted of 1276 respondents, including 52 headteachers, 104 special education teachers, and 1120 learners with ASD. A sample of 304 respondents was selected using Yamane's Formula. Using stratified sampling, four distinct strata were created as per zones to ensure homogeneity during sampling. From each zone, two headteachers, 21 special needs teachers and 53 learners with ASD were selected using simple random sampling to avoid bias. The study used questionnaire for special needs teachers, interview schedules for headteachers, observation checklist for learners with ASD and document analysis. The closed-ended questions responses were coded and labeled. Response frequency counts were acquired to create information on the respondents and to demonstrate the overall pattern of findings on the many factors under investigation. Qualitative data were analysed thematically and presented in narrative style. With the help of Statistical Packages for Social Science, frequencies and percentages were used to describe quantitative data, and Pearson's correlation was used to draw conclusions (SPSS Version 25). Tables were used to present the study's quantitative findings.

FINDINGS AND DISCUSSIONS

The study sought to examine how special needs teachers influence mainstreaming of learners with ASD. Table 1 shows the outcomes of collected descriptive data from special needs teachers;

Table 1: Views of Special Needs Teachers on the Influence of Special Needs Teachers on Mainstreaming of Learners with ASD in Primary Schools

Test Items	Ratings				
	SA %	A %	U %	D %	SD %
Special needs teachers have been trained on how to handle learners with ASD as way of mainstreaming them into classroom	51.9	25.8	5.6	5.6	11.1
Special needs teachers have experience to handle learners with ASD as a way of mainstreaming them in classroom	53.7	14.8	5.6	11.1	14.8
Special needs teachers are exposed to handling learners with ASD which has helped in their mainstreaming	57.4	16.7	7.4	9.3	9.3
Special needs teachers do not believe in the process of mainstreaming of learners with ASD in the classroom	5.6	9.3	18.5	48.1	18.5
Special needs teachers feel that learners with ASD need to be integrated into regular classrooms	66.7	13.0	3.7	5.6	11.1

Source: Field Data (2023)

Table 1 shows that 42(51.9%) of special needs teachers strongly agreed with the view that special needs teachers have been trained on how to handle learners with ASD as a way of mainstreaming them into the classroom as did 21(25.8%) who agreed. However, 5(5.6%) were undecided, 5(5.6%) disagreed whereas 9(11.8%) strongly disagreed. The findings reveal that 44(53.7%) of the special needs teachers strongly agreed with the view that special needs teachers have the experience to handle learners with ASD as a way of mainstreaming them in the classroom while 12(14.8%) agreed. However, 5(5.6%) were undecided, 9(11.1%) disagreed whereas 12(14.8%) strongly disagreed. The study also revealed that 47(57.4%) of the special needs teachers strongly agreed with the view that special needs teachers are exposed to handling learners with ASD which has helped in their mainstreaming. On the same breath, 14(16.7%) agreed. However, 6(7.4%) were undecided, 8(9.3%) disagreed whereas 8(9.3%) strongly disagreed. The findings were consistent with the findings of Donegan et al. (2013) in Illinois who established that the most important variable in a successful mainstreaming of learners with ASD is a well-prepared and capable teacher.

The study further revealed that 39(48.1%) of the special needs teachers disagreed with the view that special needs teachers do not believe in the process of mainstreaming learners with ASD in the classroom whereas 15(18.5%) strongly disagreed. At the same time, 15(18.5%) were undecided, 8(9.3%) agreed whereas 5(5.6%) strongly agreed. From Table 6, the majority, 54(66.7%), of the special needs teachers strongly agreed with the view that special needs teachers feel that learners with ASD need to be integrated into regular classrooms. A paltry 11(13.0%) agreed. At the same time, 3(3.7%) were undecided, 5(5.6%) disagreed whereas 9(11.1%) strongly disagreed.

To verify the influence of special needs teachers on mainstreaming of learners with ASD in public primary schools, data were collected on the number of special needs teachers available in the sampled schools and the number of learners with ASD. The results are shown in Table 2:

Table 2: Number of Special Needs Teachers and the Number of Learners with ASD in Public Primary Schools

Number of Special Needs Teachers	Number of Learners with ASD
8	9
12	14
9	25
13	21
10	14
14	34
15	46

Source: Field Data (2023)

Table 2 shows the distribution of the special needs teachers and number of learners with ASD in the sampled schools. The link between the number of special needs teachers and the number of students with ASD was assessed using Pearson's Product Moment Correlation Test Analysis, and the results are displayed in Table 3:

Table 3: Correlation Analysis Showing the Relationship between the Special Needs Teachers and the Number of Learners with ASD

		Number of Special Needs Teachers	Number of Learners with ASD
Number of Special Needs Teachers	Pearson Correlation	1	.767*
	Sig. (2-tailed)		.044
	N	7	7
Number of Learners with ASD	Pearson Correlation	.767*	1
	Sig. (2-tailed)	.044	
	N	7	7

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Field Data (2023)

Table 3 shows a strong positive and significant correlation between special needs teachers and the number of learners with ASD in public primary schools ($r(7) = 0.767$, $p = 0.044$ at $\alpha = 0.05$). That is, the higher the number of special needs teachers, the higher the number of learners with ASD.

The headteachers were interviewed on how special needs teachers influences mainstreaming of learners with ASD where they uniformly opined that mainstreaming of learners with ASD in public primary schools is highly dependent on the special needs teachers. Headteacher A noted,

“In my school, I attribute Successful enrolment of learners with ASD to special needs teachers. On an occasion, I had an experience where one of the special needs teachers was admitted to the hospitals and assigned a regular teacher to the learners, but the learners could not accept the

teacher. Some of the learners went to an extent of absenteeism and the situation was only restored after the teacher was back.’’

The findings illustrate how difficult it would be for learners with ASD to cope with day-to-day learning activities without trained special needs teachers. Therefore, mainstreaming of learners with ASD in public primary schools requires the special needs teachers. The findings corroborate with the sentiments by Sitlington, Clark and Kolstoe (2010) that trained and competent teachers contribute to mainstreaming of learners with ASD into the regular school system.

Conclusions

The study concluded that there is a strong positive and significant relationship between special needs teachers and Mainstreaming of Learners with ASD in Primary Schools. Special needs teachers have been trained on how to handle learners with ASD as a way of mainstreaming them into the classroom. Special needs teachers have the experience to handle learners with ASD as a way of mainstreaming them in the classroom.

Recommendations

The study recommends that the Teachers Service Commission find ways of motivating special needs teachers to further the process of mainstreaming learners with ASD in the classroom in addition to the training provided. This will ease mainstreaming of learners with ASD in public primary schools.

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