RESEARCH ARTICLE

INFLUENCE OF PHYSICAL RESOURCES ON IMPLEMENTATION OF INCLUSIVE EDUCATION IN PUBLIC SECONDARY SCHOOLS IN KENYA: AN ANALYTICAL STUDY

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ABSTRACT

Poverty is the greatest challenge facing the African continent today. Education empowers citizens and hence reduces poverty by enhancing live hood. Globally, 77 million children are out of education and 25.7 million (33.4%) are those with disabilities. In Kenya 1504 (0.48%) Students with Disabilities of 315,000 in public secondary schools are in Inclusive Education programme. Baseline survey in Bungoma County between 2013 and 2016 indicated that 107(0.07%) Students with Visual impairments and physical challenges are in Inclusive Education programmes compared with total of 39,122 Students with disabilities. Therefore, Statistics indicate that very few Students with Disabilities are admitted in public secondary schools in Bungoma County. 39,015 (99.93%) may not be accessing formal public secondary school education. The objective of the study was to establish the influence of physical resources on implementation of Inclusive Education in public secondary schools in Kenya. The study established that physical resources accounted for 18.9% of the variance in the implementation of inclusive education as was signified by the coefficient Adjusted R square .189. The other 81.1% was due to other factors that were not the subject of this study. The influence was significant as the p-value was less than the set level of significance, .05 (r=.454, N =122, P<.05). These physical resources included chairs, desks, tables, classrooms, libraries and play fields among others.

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INTRODUCTION

Globally, 77 million children are out of education and about 25.7 million of these children are those with disabilities which are about a third of the total number, while the approximate number of children with disabilities in the general population in the world is about 10% (World Vision, 2007). World Health Organization (2004) points out that 90% of children with disabilities in developing countries are out of school. This implies that developing countries where Kenya belongs are most affected by about 23.1 million children with disabilities who are not getting their basic right, which is formal education. According to United Nations Education Scientific and Cultural Organization (2005), inclusion is a dynamic

approach of responding positively to pupil diversity and of seeing individual differences not as a problem but opportunity for enriching learning. Inclusive education recognizes that these differences are variable and bring creativity and through them ideas are shared and experienced. In other words, inclusion is about transforming systems to be inclusive of everyone and not about inserting persons with disabilities into existing structures (UNICEF, 2009). There are a number of international human right agreements that support the view that compulsory segregation in education is against children's and young people's basic human rights. These include the; Universal Declaration of Human Rights (1948) by United Nations Organization, United nation Convention on the Rights of the child (1989), World Declaration for education for persons (1990) by United Nation, The Individuals with Disabilities Education Act in USA (1990). Standard Rules on the Equalization of opportunities for Persons with Disabilities (1993), UNESCO Salamanca statement and Framework for action (1994), the Dakar Framework for Action (2000) and UN

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All these international organizations advocate for Inclusive Education and are explicit on the urgency of implementing education systems that enable all children to access formal education. In South Africa, after the end of the Apartheid era, the new government that came in power in the Mid 1990s developed a White Paper no.6: entitled *Special Needs Education, building an inclusive education and training system that provides a framework for systematic change for development of inclusive education*" (Engelbrencht, Howell, & Bassett, 2002).

In Botswana, the Ministry of Education has introduced School Intervention Teams, which is school based resource services for assisting and advising teachers who have children with Special Educational Needs in their classes. Normally the head teachers, senior teachers, a social worker and individual child's parent form the team. In this study there is need to establish if there is any intervention to help teachers perceive learners with disabilities positively as they teach them in the class room. http://www.eenet.or g.uk/theory-theory-practice/models-cbr.doc. In Tanzania, Inclusive Education is perceived to mean essential human right, a force for social change and vital means for combating poverty, empowering the marginalized, safeguarding children from exploitation and promoting democracy, and protecting the environment. Schools are encouraged to accommodate all children regardless of their physical, intellectual, social or other conditions within their environment. This was presented during the Region Seminar, Sponsored by UNESCO (International Bureau of Education) entitled "*Poverty Alleviation, HIV and AIDS, Education and Inclusive Education*: Priority issues for inclusive quality education in Eastern and Western sub-Saharan Africa."Nairobi, Kenya, (2007).

Research Objective: The research objective was to establish the influence of physical resources on implementation of inclusive education in public secondary schools in Kenya.

Synthesis of literature on influence of physical resources on implementation of inclusive education: According to Smith (2007), since the initial passage in 1990 of Americans with Disability Act, physical barriers (e. g., curbs and stairs) and discrimination have reduced but certainly not eliminated. Unfortunately, physical barriers such as doors too heavy to open, school entrances too steep to negotiate, and unsuitable bathrooms still exist in many schools and public buildings. Even though not all problems are yet resolved, important changes signal a better future of access and inclusion in mainstream society. However, the changing times have witnessed the following improvements: The U.S. National Parks Service maintains accessible trails for outdoor adventures, Car rental agencies now have specially adapted vehicles for drivers with disabilities, allowing travelers with special needs to rent cars just like everyone else, Special cruise ships now offer passengers health services, such as dialysis for kidney patients, Special programmes for children and youth offer skiing, boating, sailing, and camping adventures. Children who use wheelchairs grow up today playing wheelchair basketball, cheered on by cheerleaders who also use wheelchairs, Marathon races have special events for those who use wheelchairs as well as those who run using bionic limbs, Resorts and vacation planners and city tourism offices seek out travelers with disabilities by offering free rides in boats that have special seats or advertising accessible

monorails. Such infrastructural improvements are known to be considered in the developed countries like the USA but the information in our country is still very scanty in our public secondary schools. According to Republic of Kenya (2005), the quality and adequacy of resources such as physical facilities have a direct bearing on quality of education, as they determine how effective the curriculum is implemented. Kochung' Report (2003), cited in Ministry of Education, (2009) noted that learners with special needs and disabilities require free environment to maximize their functional potentials. The planning of new buildings and the security of school facilities and equipment, has been having the tendency of making only minor changes from the arrangements of the past, on assumption that the same equipment and instructional material could serve equally well for the nurturance of all forms of abilities in all children which has not been the case (Barbara & William, 1998). Loss of vision seriously inhibits persons with visual impairment from accessing very useful information especially those available in print (Wusasa, 2013). As more people with disabilities attend higher institutions, it is incumbent upon information centre management to provide the same level of service to them as is provided to users without disabilities (Ekwelem, 2013). This is important because persons with visual impairment have the same need to have access to all kinds of information as everyone else (Javier & Calvo, 2014).

There have been some concerns about persons with disabilities; the United Nation Convention on the rights of persons with disabilities, article 21 asserts that "State Parties shall take all appropriate measures to ensure that persons with disabilities can exercise the right to freedom of expression and opinion, including the freedom to seek, receive and impart information and ideas on an equal basis with others and through all forms of communication of their choice ..." (Javier & Calvo, 2014). Information centres are service organizations which give services without discrimination to their numerous users, including persons with disabilities. Digital information centres should be especially well-suited for the disadvantaged (Higgins, 2013). Persons with Disability are found aware of latest technologies and rely on training to utilize its benefits (Kumar & Sanaman, 2013). The development of assistive technologies have provided great opportunities for people with disabilities to transform their way of life in a productive way, efficient and result oriented way (Butucea, 2013). While analyzing the assistive technology for visually impaired students; Cheptoo (2016) points out that there are advancements in assistive technology that have made it possible for the blind to keep up with emerging trends in Information Communication Technology. Training in use of these tools is readily available at Nairobi's Kenya Society for the Blind. Laurence Momanyi although visually impaired, knows his way around a computer and after switching on the machine, he calmly explains how he is able to operate it. He explains that whatever he does on the computer is spoken back to him by accessibility software. Most computers and Smart phones have them. What is not known is if the same happens in the public secondary schools that have inclusive education and with disabilities especially visual impairment use e-learning or computers. Quality education is associated with better health outcomes, better employment opportunities, higher socioeconomic status and improved general well-being (Ministry of Education, 2009). Education is a composite of many factors including teachers, learning materials, curriculum, learners and physical infrastructure. Since the

introduction of free and compulsory primary education in Kenya at the turn of the century, school enrolment has gone up remarkably but this has not been matched by a proportionate increase in school infrastructure (Ministry of Education, 2013; Kubania, 2014; Ministry of Eduation Science and Technology, 2005; Ministry of Public Health and Sanitation; Ministry of Education, 2010). The Kenya Education Sector Support Programme lists the priority areas for school infrastructure as "classrooms, toilets, storage facilities, fences, water supply infrastructure, furniture and cooking facilities" (Ministry of Education Scence and Technology, 2005). Making buildings accessible to students with disabilities is one of the corner-stone of the implementation of inclusive education in public government secondary schools. Unfortunately, public school infrastructure development has for a long time been used as a political tool and as such projects that have the highest visibility such as classrooms are preferred while others such as toilets are given lower priority leading to an overstretching of the available facilities. Education is a right for all and children with special needs are not an exception; in Kenya, legislation is in place to push for a barrier-free environment that ensures integration and that all have equitable access to different social amenities and facilities including schools (Ministry of Education, 2012; Government of Kenya, 2010; United Nations, 2006; Ministry of Education, 2009).While special needs education in Kenya dates back to the colonial era, equitable access for children with special needs is yet to be achieved with this group of learners being the unfortunate victims of a non-enabling, largely inadequate and unresponsive system.

Children with disabilities have various special needs that we may broadly categorize as physical or social. Physical needs include ramps for ease of entry and exit into buildings for those with mobility impairments, Braille reading materials for those with visual impairments, lowered sink/wash basins, toilets with rails among many others. Such facilities, when integrated into our schools, make for a more inclusive learning environment. The presence and/or absence of these may be used as indicators to evaluate the disability-friendly status of a school. The Kenya Education Sector Support Programme is a blueprint for improving equitable access to education and lists toilets as one of the key priority areas for school infrastructure development (Ministry of Eduation Science and Technology, 2005). The student explosion that was experienced in public primary schools post-Free Primary Education introduction was not matched by an equal increase in schools and associated infrastructure, toilets included. The availability of toilets has been grossly overstretched with several public primary schools having extremely high pupil toilet ratios (Kubania, 2014). Toilets provide a critical component in a school's health and hygiene infrastructure so much that they have been shown to have a bearing on school absenteeism, retention/drop-out, completion and learning outcomes (Birdthistle, Dickson, Freeman, & Javidi, 2011). Moreover, toilets as a potential source of indignity when poorly planned come out strongly in the findings of Birdthitsle *et al.* (2011). Toilets need to be constructed in a way that ensures the privacy of users and upholds their dignity. Whilst the findings of Bird thistle were based on a sex-based review, these can likely be extrapolated to learners with disability. Construction of disability-friendly toilets requires thoughtful consideration of several aspects including: i) distance from classrooms and/or hostels, (ii) height positioning of door locks/handles, (iii) water availability, (iv) adequate space for ease of movement in the toilet, (v) ramps to aid entry and exit, (vi) nonslip floor surfaces, (vii) hygiene considerations and, (viii) rails or handles to aid balance (Jones, Parker, & Reed, 2002). These are some of the aspects that allow learners to use toilet facilities in a manner that upholds their dignity and allows them to use these facilities without third party help. Specialized instructions and equipment enable learners with special needs and disabilities realize their optimal potential. Various specialized instructions such as Braille and sign language facilitate acquisition of communication skills of these learners. Diagrams and maps in tactile forms are essential in teaching a subject like geography. Communication boards are tools that enhance language development. They are prepared to aid learners with disabilities in recognition, discrimination and memory. Sign language is an alternative communication mode for those persons who cannot respond to communication through the auditory sense (Ndani & Murugani, (2010). The Specialized instructions and equipment are vital in enhancing inclusive education. As Barozi avers, there are a few examples of the many challenges people with disabilities in Tanzania face in their daily life. Accessibility is a still a very big problem in the country. There are many environmental barriers in the country such as buildings, public transportation, lack of level grounds in the institutions of learning, and narrow entries to various rooms which are largely inaccessible to learners with disabilities.

Manyuira, (2016) while making contributions on the "*making buildings accessible to people with disability*" strongly recommended several ways of making life better for persons with disabilities especially those ones with physical challenges. Installing ramps and putting light switches at easily accessible levels are some of the possible measures. Ramps are more critical in storey building. It is recommended that any smallest inclination possible as well as sufficient width to accommodate a person in a wheelchair is important. On the staircase, in the case of a blind person, hand rails are necessary to add stability, and they should also extend a little beyond the staircase to ensure a smooth break of momentum, Mr. Ireri of Fusion Designs company that remodels houses says that, adding the edges of stairs should be rounded to avoid injuries to the legs in case one trips (Birdthistle, Dickson, Freeman, & Javidi, 2011). Mr. Ireri also considers electrical switches and sockets essential in that with little tweaking, switches and sockets can give people with disabilities more independence which is vital to their comfort. Power outlets can be placed just above the floor while the light switches can be put at the eye-level of a seated person for ease of reach. Bathrooms are important areas for consideration. Replacing bathtubs with showers is one of the most common changes one can make to ease access for person with disability. This is because getting out of a wheelchair into a bathtub necessitates the presence of another person when the disabled person is bathing. That is why showers are preferred since they are more versatile. He adds that for people with communicable diseases and asthma, which he explains commonly, afflict persons with disabilities, air conditioners are vital because, apart from cleaning the air, they get rid of dust, which makes life extremely uncomfortable for asthmatics. Students with physical disabilities may only succeed in the inclusive education if they have spacious rooms for free movement, provided with page turners for students with weak hands to be able to turn pages of books, avail book holders, use of adapted chairs to correct body posture, use of pencil grips, provide mobility devices such as wheelchairs, walking frames and crutches for movement, use communication boards and bliss symbols for those with speech

problems and ensure that they wear the corrective appliances all the time(Ibid, 2010). Kakui (2008), emphasises that for Physical Education to succeed in an Inclusive Setting, the following requirements should be taken into consideration; the adapted physical education, corrective physical education, remedial physical education, adapted sports and adapted games. The modifications of physical education programmes come along with physical resources and equipment. Adaptation of Netball game will necessitate the height of goals can be lowered for ease of access to wheelchair users, seated players, dwarfs and those with visual impairments, the circumference of the ring can be increased to enhance success in scoring by players without proper coordination and visual problems, adapt ball in terms of size, weight or inclusion of an audio device as signals to the goal rings for blind players, reduce or increase size of the ball for players with fine motor problems. The sound netball may also be required to help learners with visual impairments. The Football game will also require modifications like reducing the size of the field, adapt ball with bell for the visually impaired may be used (sound ball), a lighter ball suitable for those with weak limbs can be used.

Volleyball game may require the following adaptations; lowering heights of nets, using light balls, increasing the grip (rough balls), using balls with sound for players with visual impairments. Hand ball game which is also common in secondary schools will require using a smaller and/or lighter ball and reducing the area of play. The adaptations of Hockey game will require the Institution to reduce the area of play to check on player's fatigue, provide a lighter ball, using a lighter hockey stick, which may be adapted further for ease of grasp by players with poor grasp, have a bell for learners with visual impairments, players using a widen hook of the stick (ball containing part of the stick) to increase the chances of contacting with the ball. Basketball game's adaptations will require lowering the height of the ring; increasing the circumference of the ring, use of mobility aids like wheelchairs, use of lighter ball, and having a bell in the ball used by players with visual impairments. Kakui further recommends several adaptations in sports for learners with disabilities in an inclusive setting such as reducing distance to be covered, participants to be allowed to use their mobility aids; use of sighted guides, and using signals to start the race for learners with hearing impairment. For the wheelchair racing the following adaptations may be required; using specially designed wheelchairs for speed, classification of the wheelchair participants to avoid advantage over them, having all competitors including those without difficulties in the wheelchair for a fair competition, and by the use of the same make of wheelchair.

Adaptations for Shot Put include using a lighter weight, accepting a shorter distance, use of wheelchairs to sit on when throwing, and enlarging the landing area. In the sport of hammer the following adaptations may be essential; reducing the weight, adapting the hammer by using a lighter material, enlarging the area of throw, allowing using one hand for amputees, and making a wider area for landing. Javelin sporting event can also be adapted by making it from light stick of wood, throwing from a sitting position, using mobility devices for support when throwing, accepting any distance attempted, and enlarging the landing area. The adaptations of discus for learners with disabilities include; reducing the weight by making implements from a lighter material, all throws can be done from a wheelchair or from a seated

position, distance may be reduced, the landing area can be enlarged, and throwing circle can be enlarged. Sports involving jumps may be adapted as follows: distance from the takeoff board to the landing area can be reduced, varying rules for takeoff and reduced for landing, and take off standing to landing area. Specifically vertical jumps will require adaptations to be done to suit the particular learner with disabilities for instance; lowering the barrier to be jumped over, using adapted pole, and using mattresses for landing according to Kakui. The same case applies to hurdles in adaptation that include lowering the height of the hurdles, reducing the number of hurdles to be cleared to increase spacing for running, and ramps can be used instead of hurdles for learners with mobility devices. According to Kakui and Muga (2008), Indoor games that can be played in a small enclosed space such as Darts, Drafts, Chess, Cards, Scrabble, Rope Skipping, Table tennis, Badminton, Jig-Saw, Birigori, Ajua, and Wrestling are very important. In adapting Indoor games some principles need to be considered such as designing instructional environment to accommodate individual needs, introduction of special devices, aids and equipment to assist the individual learners, utilize special instruction techniques, providing special feedback for tasks to facilitate learning, using peer assistance, provide mobility and orientation training. There is no research done in public secondary schools to confirm that adaptations of physical education are done for the benefit of learners with disabilities and physical facilities and equipment are made available for the adapted physical education.

The use of the internet is becoming an essential part of day-to-day living. This has two implications for people who are visually impaired or blind. First, access to the internet using contemporary technology may present barriers, thus excluding them from fully contributing in society. Second, once accessibility barriers have been overcome, the internet offers a quick access to information that was not readily accessible before (e.g. electronic versions of newspapers, job applications). For these reasons, there has been a great deal of research into how people with visual impairment access the internet, what they use the internet for and the barriers that they face (Hewett, Torgerson, & Douglas, 2014).

Conceptual Framework: Mugenda and Mugenda (2003) and Orodho, (2005) define conceptual framework as model of representation where a researcher hypothesizes the relationships between variables in the study and depicts them diagrammatically. For the implementation of Inclusive Education to succeed, various inputs must be put in place. The financing of the implementation of Inclusive Education, the human resources to run the programme, the physical resources should be made available and the influences of students both those with disabilities and those without disabilities.

Application of the Conceptual Framework: The study was based on a conceptual framework that shows the influence of Students with Disabilities   implementation of inclusive education in public secondary schools. The independent variables were physical resources which included; chairs desks, tables, classrooms, white/blackboard, playgrounds, equipment, apparatus and libraries. The conceptual framework postulates that physical facilities can enhance learning and participation in desired activities involving students with and without disabilities together or separately.
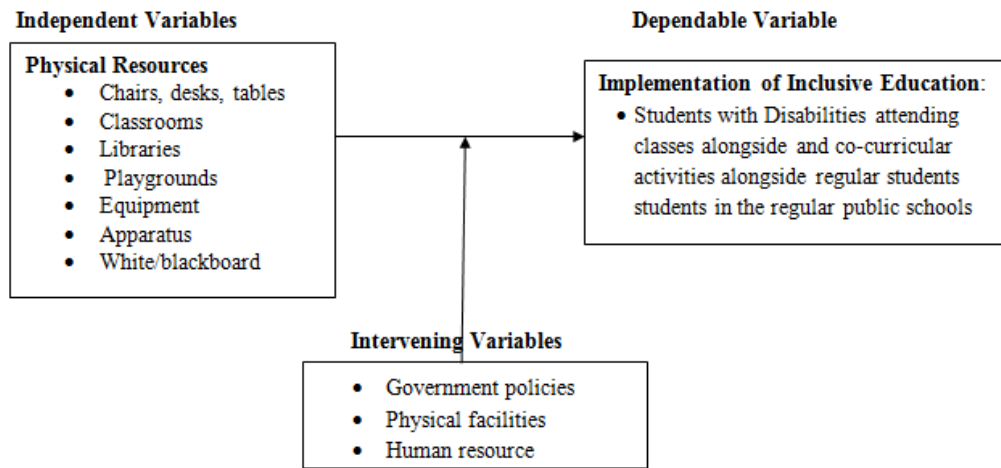
Figure 1. A conceptual frame work showing influence of physical resources on the implementation of Inclusive Education

It is only when physical resources are available and effectively utilized for both students with and without disabilities that can have inclusive education implemented. Studies have shown that there are mutual benefits when the Students with Disabilities and regular students learn together in both curricular and co-curricular activities utilizing optimally the available physical resources. It is the intervention and support by way of adaptation of physical resources that enable Students with Disabilities effectively participate in learning activities. Successful inclusive education occurs primarily through accepting, understanding and attending to students differences and diversity coupled with varied physical resources that enhances cognitive, academic, social and emotional development (Macmanis, 2018). Macmanis (2018) contends that "the driving principle is to make all students that is, both, with and without disabilities to feel welcomed, appropriately challenged and supported in their efforts. The intervening variables which may either enhance or inhibit Students with Disabilities influence on implementation of Inclusive Education are government policies in terms of funds allocated and when disbursed to schools, physical facilities which should cater for both categories of students equitably and human resource who should pose the requisite skills of handling both Students with and without Disabilities.

MATERIALS AND METHODS

This study was based on Social Model of Disability, as discussed by Rieser (2002) and the conceptual framework that showed the relationships between independent variables namely finance, human resources, and physical resources, influences of students with disabilities and Regular Students towards the implementation of Inclusive Education as dependent variable. The study adopted descriptive survey research design. The study population included 1 Senior Assistant Director of Education, 1 County Director of Education, 1County Education Officer in charge of Special Needs Education, 3 Principals of Public Secondary Schools, 10 Special Education Teachers, 130 Regular Teachers, 107 students with disabilities and 2,348 Regular Students. Sample size through simple random sampling comprised 122 Regular Teachers, 54 students with disabilities and 350 regular students. Saturated sampling technique selected 1 Senior

Assistant Director of Education, and 1 County Education Officer in charge of Special Needs Education, 3 Principals of Public Secondary Schools, and 10 special education teachers. Research Instruments included Questionnaires, observation checklist, interview schedule and document analysis guide. To ensure face and content validity of research instruments, advice from experts in the department of Special Needs Education and Rehabilitation was sought. Reliability of instruments was established through Cronbach's alpha and was found to be 0.773 which was high enough to meet conditions of reliability. Reliability coefficient for regular teachers questionnaire was 0.83. This was above the accepted value of 0.7 at p –value of .05. Quantitative data used closed ended questionnaires was analyzed using inferential statistics while qualitative data used open ended instruments and thereafter transcribed and organized them in thematic areas. Inferential statistics used multiple linear regression analysis to establish the influence of Students with Disabilities on implementation of Inclusive Education.

RESULTS

Research Question: The research question responded was: What is the influence of physical resources on implementation of inclusive education in public secondary schools?. In order to respond to this research question, data on physical resources and the status of implementation of Inclusive Education were computed using regression analysis and the results were as shown in Table 1. From Table 1, it can be noted that physical resources accounted for 18.9% of the variance in the implementation of inclusive education as was signified by the coefficient adjusted R square .189. The other 81.1% was due to other factors that were not the subject of this study. The influence was significant as the p-value was less than .05, the set value of significance (r=.454, N =122, P<.05). These physical resources included chairs, desks, tables, classrooms, libraries and play fields. To establish whether physical resources were significant predictors of implementation of inclusive education ANOVA was computed and the results were as shown in Table 2. From Table 2, it can be observed that physical resources was not a significant predictor of the implementation of Inclusive Education. This means that the physical resources of Students With Disabilities indeed influenced implementation of Inclusive Education [F (4,117)

Table 1. Model Summary of Regression Analysis of Physical Resources and implementation of Inclusive Education

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.454[a]	.206	.189	.75242	.206	7042	4	117	.000

a.Predictors: (Constant), Physical Resources

Table 2. ANOVA of Physical Resources and Implementation of Inclusive Education

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.503	4	.376	.516	.000
	Residual	85.219	117	.728		
	Total	86.721	121			

a.Dependent Variable: Implementation of Inclusive Education
   Predictors: (Constant), Physical resources

Table 3. Multiple linear Regression Analysis of Physical Resources and implementation of Inclusive Education

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.581	.381		9.388	.000
	Classroom	.027	.058	.043	.469	.040
	School equipment and library resources	-.046	.059	-.073	-.786	.034
	Toilet facilities	-.071	.065	-.100	-1.093	.027
	Sports and games facilities	.016	.051	.028	.310	.051

a.Dependent Variable: implementation of inclusive education :

Regression Equation $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4$

This was as a result of sports and games facilities in the school not being suitable for students with Disabilities in their school. This means that physical facilities are real drivers of the implementation of inclusive education. Physical resources are valuable both in curricular and co-curricular activities and indeed enhance the process of education. This means that in the absence of physical resources no meaningful learning can take place. To establish the actual influence of physical resources on implementation of inclusive education, multiple linear regression analysis was computed and the results were as shown in Table 3. From Table 3, it can be observed that classrooms influenced positively the implementation of Inclusive Education such that for every one unit increase in classrooms implementation of Inclusive Education improved by .027 units. Although the units were small, the influence was significant.

This means that the model can be applied to the study population. Sports and games facilities equally had a positive influence on the implementation of Inclusive Education, though the influence was small but significant. Thus for every one unit increase in sports and games facilities, implementation of Inclusive Education improved by .016 units. School equipment and library resources; and toilet facilities, however had negative influence on implementation of Inclusive Education. Thus, for every one unit increase in school equipment and library facilities, implementation of inclusive education reduced by .046 units and for every one unit increase in toilet facilities, implementation of inclusive education declined by .071 units. This means that classrooms, games and sports enhanced implementation of inclusive education while school equipment and library resources and toilet facilities reduced implementation. Regression Equation $Y = 3.581 + 0.27X_1 + -.046X_2 + -.071X_3 + .016X_4$. The influence generally was low.

DISCUSSION

These findings were supported by findings in the observation checklist by the Researcher the following were noted in the sample public secondary schools that were implementing Inclusive Education: there was overcrowding student populations in the classroom an average of 55 students per stream, two schools had resource rooms but not fully equipped as required but one school did not have a resource room, landscape of the school compounds were suitable for students with disabilities because they had flat grounds. The sample selected public secondary schools had a number of structures but one of the schools had a storey- building but there were no provisions for ramps and rails that could assist students with disabilities who experience mobility problems.

One of the schools had pavements well constructed to enhance mobility of Learners with disabilities especially those with visual impairments and physical challenges. Entrance and accessibility to various important places like toilets, classrooms and offices were not taken into consideration in the two public secondary schools of the sampled selected ones. Good attempts were made in putting in place the Communication designs in the school to promote inclusive Education, and the interactions in the school among students with disabilities and regular students. Most of the facilities in the school such as chairs, tables, and cup-boards, Braille machine, and computers, among others were not adapted to the conditions of students with disabilities. The adapted physical education, corrective physical education, remedial physical education, adapted sports, adapted games, outdoor games, and sports (football, netball, volleyball, handball, hockey, basketball, goal ball, showdown, and athletics) were not made available in the public secondary schools. The investigator also established that the following were not given the required

attention, Indoor games recreation, Leisure activities in the community, music and dance, theatre performance, and disability friendly toilets.

From the findings in the current study, physical resources are also among the key determinants of implementation of inclusive education in secondary schools in Bungoma County. The presence of enough physical resources as a determinant on inclusive education is also emphasized by researchers such as Barbara and William (1998) who strongly advocate for the case of ensuring that physical infrastructure such as buildings being fitted with equipment that should take care of persons with and without any form of disabilities. Such position is similarly shared by researchers such as Javier and Calvo (2014) who strongly feel that visual impairment for instance as a form of disability needs to be taken care of so that when it comes to access to information persons with visual impairment can equally be in a position to access information just like everyone else.

Physical Education and Sports are very important because they promote learners' social, physical, mental and emotional development through movement activities. It was observed that the sampled public secondary schools implementing inclusive education in Bungoma County scored very poorly in these areas. The schools are supposed to have Adapted Physical Education, which is the modification of Physical Education programmes to meet the diverse needs of individual learners and to enhance their participation and enjoyment which is not the case. It provides a situation where physical activities are modified to meet the physical, mental, social, and emotional needs of learners with special needs. Corrective physical education, Remedial physical education, adapted sports and adapted games were also non existence in the schools. There are games played outside in specific marked areas: Football, Netball, Volleyball, Handball, Hockey, Basketball, and Goal ball, Show down, and Athletics. The adaptation of outdoor activities is useful because it ensures the students with disabilities participate in all school activities; demonstrate their abilities, experience success making a major step towards independent living.

The three common game activities in the sample public secondary schools from the research findings included; Football game, Volleyball game, and Netball game. The expected adaptations for the Football Game which was supposed to include; the reduction of the size of the field to suit players with mobility problems, the exemption from some rules like offside, handball, participation on mobility aids and others, a lighter ball suitable for those with weak limbs, blind folding sighted players when playing with the blind, using left leg only, making players with special needs play specific numbers of goal keeper and referee, having seated players to play with their hands, and scoring whenever a ball passes an opponent defense line, or backline among others are not done the schools. This leaves learners with special needs and spectators and idlers during games time. The Netball game that is played with hands by seven players aside in a marked field that was found to be popular in the only girls' public secondary schools that is implementing inclusive education had no adaptations to include students with disabilities. The school has an inclusive programme for learners with Visual problems and most of them have low vision.

The expected adaptations of increasing numbers of players especially those with mobility aids, lowering height of Goals for ease of access to those with visual impairments, increasing the circumference of the ring to enhance success in scoring by players with visual problems, deployment of players without disabilities in fixed positions like shooters to be receiving the ball and shoot without movement, varying netball rules to suit players of with special needs, adapting a ball in terms of size, and weight or inclusion of an audio device as signals to goal rings for students with visual impairments could not be noticed anywhere in the playgrounds infrastructure hence suggesting that students in the two schools are not included in this game of netball. One of the schools in the sample that been champions in the game of netball at Provincial level and also participated in National and East African competitions for over ten years had two fields of netball but courts are unfriendly to the learners with Visual impairments and the games teachers confidently confided that those students can be at best spectators of the game, terming the student to of no use the game. The game of volleyball that is played by six players aside across a net using the hands to strike the ball over the net to the opponents' court as the opponent prevents the ball from landing in their court was noticed in all the sampled public secondary schools that embrace inclusive education. However, still no adaptation of the game was noticed such as increasing the number of players aside especially for those with visual impairment and mobility problems, lowering height of nets, deploying all the players in fixed positions, varying any ball rule to suit the player with special needs in the class, adapting the ball by using light balls, increasing the grip (rough balls), and using balls with sound for players with visual impairments.

Handball game that is played in marked field using hands by throwing to team mate and scoring into a goal outside a specified area around the goal was only found to be played in two schools. Two schools in the sample are the only schools that have fields and play the game of handball. The game is only played by students who have no disabilities. In this game there are on adaptations such as reducing the number of players, using a smaller and/or lighter ball, allowing shooting in the restricted area, reducing the area of play, and reducing time of play. Like other games students with disabilities are not given chance due to probably ignorance and lack of facilities.

Hockey game that is played by eleven players aside where the ball is passed using designed stick was found also only in the two schools that embrace Inclusive Education. In fact one of the schools which is a girls' school has held National championship in 2001, 2003, 2004, 2017 and East African champion in the year 2009. However, all said and done, students with disabilities who are mostly of Visual Impairment have never participated in the game. Therefore, the game that is so popular in the school only involves students without disabilities.

The two among sampled schools, therefore have not done any adaptations for the hockey game like reducing the area of play to check on players' fatigue, increasing the number of players, providing a lighter ball, using a lighter hockey stick, which may be adapted further for ease of grasp by players with poor grasp, having a bell for learners with visual impairments, players with special needs can be goalkeepers, allow players to use hands to guide the stick to the ball, adjust rules to control

stick lifting, player movement so that they the ball across the centerline with each team in it's own court, use the whole backline/goal line to be the goal so that the whole team plays the goalkeeper, each player at his position to prevent the ball from passing and closing over, widen the hook (ball containing part of the stick) to increase the chances of contacting with the ball.Basketball game which is played by five players aside to form a team is played by dribbling the ball, then thrown and eventually shot into a ring. From observation and interview schedule carried out, this game is played in the selected three public secondary schools that implement Inclusive Education by regular students only but students with disabilities are either spectators or they could not know was going on.

As usual, this game only involves students who do not have disabilities. The major reason the game has not been adapted to be attractive or draw the interest of students with disabilities such as lowering the height of the ring, increasing the circumference of the ring, increasing the number of players, allowing the use of mobility aids like wheelchairs, use of lighter ball, and having a bell in the ball used by players with visual impairments.

Out of the four public secondary schools that are officially programmed for inclusive education in Bungoma County, three schools had enrolled students of visual impairments. These are Bungoma Boys High school, St. Cecilia Girls High school, Misikhu and St. Teresa's Girls secondary school, Kimilili. Nalondo secondary school is programmed to implement inclusive education for students with physical challenges. But unfortunately, the known game for the students with visual impairments like Goal ball game and Show Down game are unknown sports in these schools. The interview schedule with games teachers revealed that the tutors do not know that we have such games in existence. Goal ball game which is popular for the visually impaired students is played by two teams of three players with a maximum of three substitutes for each. The game is conducted on a smooth floor within rectangular court (18x9) metres which is divided into five parts. Goals are erected at either end. The game is played with a bell ball. The objective of the game is to roll the ball across the ball across the opponents goal line while the other team attempts preventing this from rolling. Any part of the body or the whole body can be used to prevent the ball from rolling across the goal line. The bullets at each portion of the court (playing area) mark the position of each player for example the centre and the two wings left and right players.

Show down Game is also designed to be played by blind persons. This means that it does not require the use of sight. All players who are not blind must therefore be blind folded to ensure that none of them has a visual advantage over the blind. The game is played on a rectangular table with goal pockets at each end and a centre screen. It is played with bats and a ball in which pellets have been inserted to make it audible. The objective of the game is to bat the ball across the table under the centre screen, and into the opponents' goal pocket while the opponent tries to prevent this from happening. It is important to note that the two games: goal ball and showdown games are the most suitable games in an inclusive setting for learners with visual impairments. Teachers are encouraged to introduce the game in their schools to accommodate the increasing number of those without sight.

The findings in Sports also revealed that physical facilities are the major led down to the implementation of inclusive education in public secondary schools. The athletics which is the sports that students compete in such activities like running, jumping and throwing are not made friendly to students with disabilities. Starting with Races which include Sprints (short races), middle distance races, and long races it was established that the sprints that include 100 m race; 200 m race; 400 m race; 100 m hurdles; 110 m hurdles, 400 m hurdles, and wheelchair races had not adapted to meet the specific needs of different categories of by reducing distance to be covered, using guided sights, covering lights of hurdles, and reducing the number of hurdles. The Middle distance Races, which are relatively longer races taken within a specified time and usually covering a distance of 800 m – 1500 m. in the middle distance races, the whole race course may be covered by an individual competitor with special needs or share between groups of learners, people, as happens in relays. Middle distance races include 800 m; 1500 m; 4x100 m Relay; and 4x400 m Relay. However, these schools do not have them. The adaptations of Middle distance races that include reducing distance to be covered, participants being allowed to use their mobility aids, use of sighted guides, and use of groups to share distances to be covered to allow students with disabilities to participate successfully in an inclusive setting were not being implemented in the selected three public secondary schools in Bungoma county. One of the schools where inclusive education is being implemented with mainly students with physical challenges was expected have Wheelchair racing as important sports in the school, but actually it is not the case in this school because this sport is non-existence. In this race, Wheelchairs are used by players with lower limbs weakness to cover different distances.

CONCLUSION

Physical resources had a significant influence on implementation of inclusive education. However the degree of influence was low. The low influence attributed to inadequacy, quality and distribution of the physical resources. Basically physical resources are key motivators in any educational institution. This is much more so for the Students With Disabilities. This is because they are highly vulnerable. Each student depending on his or her morphological and physiological status require physical resources that can inspire and sustain participation in learning activities where adaptation has not been done the concerned class of persons easily dropout. Drop out is a factor that when not taken care of a system of education can collapse.

RECOMMENDATIONS

- Principals of schools should ensure that class sizes are to the optimum sizes to avoid overcrowding.
- Principals should ensure that all buildings have ramps and rails in addition storey buildings to enable mobility of Students with Disabilities.
- Pavements should be well constructed to enhance mobility of learners with disabilities, especially those with visual impairment and physical challenges.
- Chairs, tables, cupboards and computers should be adapted to the conditions of students with disabilities.
- Toilets should be renovated to be students with disabilities friendly.

- Indoor games and recreation activities should be provided for the students with disabilities, just like in the case of regular students.
- Facilities and equipment for physical education should be provided. This should cover the areas of games and sporting events like netball, volleyball, football, hockey, athletics, use of light balls, balls with bells and wheelchairs should be provided.

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