




Finding out the predictive capacity independent variables on retention of disabled pupils in mainstreamed primary schools in Bomet County, Kenya

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Abstract

This study sought to find out the predictive capacity independent variables on the retention of pupils with disabilities in mainstreamed primary schools in Bomet County, Kenya. The study adopted a survey research design. The target population consisted of 840 teachers. Yamane formula was used in getting a sample size of 271 teachers. The multi-stage sampling procedure was used. After collecting, coding and analysing the raw data, the study revealed information as follows: provision of appropriate instructional and physical resources significantly influences the retention of pupils with disabilities by 19.2 per cent and 42.1 per cent, respectively. The study findings indicated that there was evidence of a positive and statistically significant relationship between the provision of appropriate physical resources and the retention of disabled pupils ($r = 0.828^{**}$; $p < 0.05$). Similarly, there exists a positive and statistically significant relationship between the provision of appropriate instructional resources and the retention of pupils with disabilities ($r = 0.842^{**}$; $p < 0.05$). Moreover, the findings indicated that there was strong evidence of a statistically significant and positive relationship between appropriate recreational resources and the retention of pupils with disabilities ($r = 0.846^{**}$; $p < 0.05$). Finally, the findings indicated that there was strong evidence of a statistically significant and positive relationship between appropriate human resource skills and the retention of disabled pupils ($r = 0.866^{**}$; $p < 0.05$). The study recommended that in-service training should be conducted for all regular teachers to enhance knowledge, skills and attitude toward special needs education.

Key terms: Resources, skills, mainstreaming, retention, disabilities.

INTRODUCTION

According to the World Health Organization (2011), approximately one billion people in the world have one disability or the other, with at least 1 in every 10 being a child and 80 per cent living in developing countries. Elzein (2013) puts more emphasis on the same information that 10 per cent of any population in the world is disabled and that children below 15 years in many developing countries, especially in Africa, have various types of disabilities. Mainstreaming policy is concerned with overcoming barriers that hinder children from free participation in regular learning activities (MacGuine & Molbjerg, 2011). All education providers and managers are expected, at all costs, to be aware and develop standards that cater for learners with disabilities. Education managers and providers, especially the head teachers, who are the immediate quality assurance officers on the school level, should create conducive environments that allow PWDs to receive an education equal to other learners.

In Australia, Walsh and Thomas (2015) report that there is no sufficient number of teacher aiders that are available to meet the support for PWDs. The few who are available have inadequate training and professional support provided for them. Many disabled children require medical interventions or personal care all the time during the day. There are problems in determining who takes part in these procedures to unveil better solutions. The report by Walsh and Thomas further reiterates that when the education managers fail to provide appropriate equipment needed, for instance, hearing aide, vision aide, and electronically adapted mobility devices, among others, they hamper the retention of PWDs. The lack of provision of these resources may be due to inadequate financial resources to facilitate the delivery of such resources. Nevertheless, the report by Walsh and Thomas (2015) did not handle the human resource skills that are appropriate for special needs education.

The background of this study shows that there is a problem of retention for pupils with disabilities in regular mainstream schools. According to Kahongeh (2018), the Kenyan education system is still ill-equipped to support students with disabilities and special needs. Kogei (2013) states that Kenyan special needs education is reported to suffer from insufficient

supplies for PWDs to study in regular schools. While many children with disabilities do not attend school at all, those who study in regular schools are far more presumably to drop out compared to their non-disabled peers in the same grades (Kenya National Survey for People with Disabilities, 2008). Research conducted by Taderera and Hall (2017) established that when a child is discovered to be disabled, the majority of Kenyans hide them in their rooms or are in-door locked so that people will not see them. They encounter many difficulties in relating with the rest of the children. Whenever they attempt to join up with the rest of the children, they are either cursed away, or the other children run away from them. The bitter part of it is that traditional beliefs cause the entire family to be rejected by the community. In case their disabled children are enrolled in schools, they are rejected and discriminated against by normal children. Similarly, Bunning et al. (2017) established that local beliefs accredited disability to the human transgression of social conventions, which brought out supernatural forces affecting the children and a curse. These studies show that negative cultural beliefs and discrimination could affect the enrolment and retention of PWDs in mainstream schools. However, these studies did not expound on the fact that provided resources not designed for PWDs may affect retention. This motivated the researcher to conduct this study.

LITERATURE REVIEW

Baxter and Babbie (2013) agree that the retention of disabled children in learning institutions has not been fully attained. Furthermore, according to Baxter and Babbie (2013), there are nine influences affecting the social integration of children with disabilities and greatly impact enrolment and retention. These include a commitment of the institution to the learner's welfare, communal potential, institutional integrity, proactive social adjustment, psychological engagement, economic strength, institutional organisation, psychological approach and sociological considerations. Idol (2015) indicates that neither grade retention nor social promotion is a practice for promoting students of the same age-peers to the next level. This may be so even if they have not mastered current grade-level content. According to Huang and Waxman (2016), the rate of attendance of children with disabilities at regular community schools in India

is too low. He also noted that there is a high rate of illiteracy among pupils with various forms of disability. He quoted a research finding that recorded a percentage of 74 in urban areas and less than a third of this figure in rural areas.

Thomas (2015) also notes that illiteracy is high among all categories of disability in many African countries. Thomas added that exceptional children, as a matter of concern, are well explained in relation to curricula, teaching/learning materials and approaches for teaching. Promoting mainstream classroom education for special needs children requires an optimistic change of attitude by families and communities. Idol (2015), Huang and Waxman (2016) and Thomas (2015) did not analyse the influence of the provision of appropriate resources on the retention of disabled pupils in mainstream primary schools, which this research study pursued.

According to the observations of Miller (2013), India's approach is consistent with international estimates recording that 33-40 per cent of out-of-school children worldwide are disabled. It is reported that the majority of disabled children in Africa are deprived of access to quality mainstream education. In South Africa, for example, research conducted by Human Rights Watch (2015) evidenced that the government has not reached "universal" education because it has left over half a million children with disabilities out of school. Hundreds of thousands of children with disabilities, who are presently in school, lag behind due to inadequate facilities. This implies that the situation may not allow pupils with disabilities to remain and pursue their education until they complete their primary level.

Human Rights Watch (2015) reports that in 2007, South Africa was amongst the first countries to approve the United Nations Disability Rights Treaty. This agreement required that the government promotes an inclusive system of education. Such a system was designed to make sure that all children learn together and acquire the same skills on an equal basis. Any barriers to learning were removed so that children with disabilities get adequate support that prevents them from falling behind. Additionally, Myers (2014) reports that in Burkina Faso, being disabled increases the risk of pupils not being in school by two

and a half times that of normal children. Children with disabilities are less likely to start school, and if they do, they are unlikely to transit to secondary school. Access to school by children with disabilities is often limited. Despite this reality, a study by Myers (2014) did not explore further reasons why PWDS drop out of school or not fully retained, which is the main purpose of this study.

UNESCO (2004) has supported this report by stating that illiteracy rates are very high among all Children with special needs. This brings home a clear fact that those children with disabilities choose whether to stay out of school or attend regular schools in their vicinities which automatically affects mainstreamed learning and retention in regular schools. According to Lone (2016), stumbling blocks, for instance, lack of a clear system for admission, lack of parental interest and economic reasons, frustrate the enrolment and retention of children with disabilities into regular schools. The latest report of 2017 from the Kenya Society for People with Disabilities says that out of every 10 pupils with disabilities who attend regular community schools, only 3 manage to remain to the end of a given education level (County Government of Bomet, 2017).

Special schools and institutions of training for PWDs, especially the deaf, the blind, and the intellectually disabled, should be established to cater for formal education, skills development and self-reliance. The Kenya National Plan of Action for persons with disabilities (1999-2009); the Free Primary Education (FPE) introduced in 2003, the Disability Act, 2003, the Special Needs Education Policy Framework, 2010 and finally, the Sessional Paper No. 1 of 2005 on a policy framework for Education, Training and Research, stated that special education was important for human capital development. It prepares those who are most likely to be dependents to become self-reliant, hence, strengthening the contemporary philosophy of inclusion.

A study carried out by Njeru (2014) investigated the factors that influenced low enrolment and retention rates of girls with disabilities in integrated primary schools in Embu County. It revealed that even the few girls who enrolled in schools were in danger of not being retained more than boys. The girls' low rates of

retention and low enrolment were the reasons why there was a need for the dismissal of obstacles that hampered the participation of girls in education worldwide. The findings by Njeru (2014) did not show specifically the designed provisions that are appropriate for PWDs. Hence, there is a need to discover whether it was the same for the disabled girl child by looking into the factors contributing to the low retention and enrolment rates and establishing intervention measures to avert this occurrence. A study carried out by the Republic of Kenya (2012) revealed that in Kenya, girls' participation in primary education was very low. As per this study, among the pupils entering standard one, only 80 per cent of the girls reached standard four, and 35 per cent entered standard eight. Hence, this study intensively investigated to justify the influence of the provision of appropriate resources on the retention of PWDs in Bomet County, Kenya.

Role of Education Managers in the Provision of Resources to PWDs

According to the Republic of Kenya Basic Education Act (2017), education managers are mandated to make provisions necessary for learners with disabilities. Furthermore, the legal document states that it is the duty of the education managers to provide appropriate resources in the areas of their jurisdiction which benefit children with special needs. Whereas, Wanzare (2013) affirms that the role played by head teachers as instructional leaders worldwide is critical due to their direct and indirect impact on disabled pupils. The literature suggests that school head teachers' leadership role is central to establishing, managing and maintaining resources in an effective mainstreamed school. As instructional leaders, the head teachers are the pivotal point within the school who affects the quality of individual teachers' instructional strategies, the height of pupils' achievement, and the degree of efficiency in school functioning. Most Governments globally are committed to enhancing the rights to schooling for children with disabilities. The legal framework outlines the rights of children with disabilities to education and supports their education by providing necessary facilities (UNICEF, 2016).

Scholars like Topping & Maloney (2015) and Richardson (2014) reiterate that investment in

education is fundamental to improving a country's economic growth, reducing poverty and boosting a country's general welfare. As a role of education providers and managers to ensure that appropriate resources are availed in mainstreamed schools, it is mandatory that no child should be excluded from schooling due to any form of disability or how severe the conditions are (Attig & Hopkins, 2014). In addition, Tomlinson (2012) agrees that mainstreamed schools increase opportunities for PWDs to learn, mix up, interact and grow among other normal children. Mogute (2013) notes that school heads are the custodians of their school learning facilities. It is the responsibility of the school heads to ensure that all components of the plant are in good working condition, well protected and used for the purposes they were intended for. The study further noted that the teachers are to assist the school head teachers in the maintenance of the school infrastructure and learning environment.

According to Muriuki (2015), the Kenya government recognises access to quality education and skills development as a fundamental right to all citizens, including those with Special Needs. Several interventions have been put in place to cater for children who are hard-reaching in school and particularly learners with special needs. As stipulated in article 24 of Millennium Development Goals, State parties recognise the right of persons with disabilities to quality education without discrimination, prejudice and on an equal basis with others. Furthermore, Muriuki exposes that several global and national efforts have been pooled together through the Kenya Education Sector and Support Programme (KESSP) to enhance the implementation and realisation of the rights of persons with disabilities to education. Curriculum materials have been adapted and adopted to meet the needs of learners with disabilities in primary schools.

METHODOLOGY

The study adopted a survey research design. The target population consisted of 840 teachers. Yamane formula was used in getting a sample size of 271 teachers. The multi-stage sampling procedure was used.

RESULTS AND DISCUSSION

Regression Analysis

The fifth objective was to establish the predictive capacity of each independent variable on the retention of pupils with disabilities in mainstreamed primary schools in Bomet County, Kenya. To realise this objective, multiple linear regression analysis was done. The findings are presented subsequently.

Model Summary

The model summary of the regression shows the amount of influence of the independent variables on the dependent variable. The finding is presented in table 1.

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.927 ^a	.860	.858	.263
a. Predictors: (Constant), Provision of Appropriate Human Resource Skills, Provision of Appropriate Instructional Resources, Provision of Appropriate Physical Resources, Provision of Appropriate Recreational Resources				

It was observed that the provision of appropriate physical resources, instructional resources, recreational resources, and appropriate human resource skills explains 85.8 per cent of the retention of disabled pupils with an error term of 0.263. Furthermore, 14.2 per cent was not accounted for by the model and could be explained by other factors outside the study variables. This means that all these predictor variables account for up to 85.8 per cent of

the retention of PWDs, leaving only 14.2 per cent as an unexplained variation.

Model Significance

To test the significance of the regression model, an analysis of variance (ANOVA) was computed. The finding is presented in table 2.

Table 2: Analysis of Variance (ANOVA) ^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	108.736	4	27.184	393.792	.000 ^b
	Residual	17.672	256	.069		
	Total	126.408	260			
a. Dependent variable: retention of pupils with disabilities						
b. Predictors: a (constant) provision of appropriate human resource skills, provision of appropriate instructional resources, provision of appropriate physical resources, provision of appropriate recreational resources						

The model was highly significant in predicting the influence of the provision of appropriate physical resources, instructional resources, recreational resources, and appropriate human resource skills on the retention of disabled pupils at 0.05, $r^2 = 0.860$, $F(4, 256) = 393.792$; $p < 0.05$. Generally, an F-test in regression compares the different linear model fits. The F-test can assess multiple coefficients simultaneously, unlike t-tests that can assess only a single regression coefficient at a time. The F-test of the general significance is a particular form of the F-test. It

gives the comparison of a model without predictors to the model that you specify. A regression model that contains no predictors is also known as an intercept-only model (Frost, 2015).

Influence of Independent Variables

The net influence of each independent variable was presented by the Regression Coefficients. The result is presented in table 3.

Table 3: Regression Coefficients

Unstandardised Coefficients			T	Sig.	Collinearity Statistics	
B	Std. Error				Tolerance	VIF
(Constant)	.179	.055	-3.266	.001		
Provision of appropriate Physical resources	.192	.044	4.394	.000	.261	3.831
Provision of appropriate Instructional resources	.421	.042	10.128	.000	.402	2.491
Provision of appropriate Recreational resources	.253	.057	4.438	.000	.222	4.505
Provision of appropriate Human resource skills	.250	.063	3.975	.000	.174	5.747

In this study, Collinearity Statistics were computed in order to verify if the predictor variables were highly correlated. Multicollinearity, or near-linear dependence, is a statistical phenomenon in which two or more predictor variables in a multiple regression model are highly correlated (Jensen & Ramirez, 2013). Multicollinearity is measured by variance inflation factors (VIF) and tolerance. A commonly given rule of thumb is that VIFs of 10 or higher may be the reason for concern (Kutner et al., 2004). The results in Table 36 show that all the predictor variables had VIF below 10, suggesting that the Multicollinearity problems were not present in the model. Hence the predictor variables were independent in predicting the retention of pupils with disabilities

Regarding the unstandardised coefficients (uc), the provision of appropriate physical resources and the provision of appropriate instructional resources significantly influence the retention of pupils with disabilities by 19.2 per cent and 42.1 per cent, respectively. Similarly, the provision of appropriate human resource skills and recreational resources was seen to significantly influence the retention of disabled pupils by 25.3 per cent and 25 per cent, respectively. Therefore, the provision of appropriate instructional resources is the highest predictor in this

study, with a 42.1 per cent influence on the retention of disabled pupils in mainstreamed primary schools in Bomet County, Kenya.

CONCLUSIONS AND RECOMMENDATION

Conclusions: Regarding regression analysis, the provision of appropriate physical resources was found to significantly influence the retention of pupils with disabilities by 19.2 per cent. It was found that the provision of appropriate instructional resources was found to significantly influence the retention of pupils with disabilities by 42.1 per cent. Similarly, the provision of appropriate recreational resources was found to significantly influence the retention of pupils with disabilities by 25 per cent. Finally, the provision of appropriate human resource skills was found to significantly influence the retention of pupils with disabilities by 25.3 per cent.

Recommendation: The study recommends that a baseline survey should be conducted so as to establish the nature of severe disabilities among children who are hidden at home due to stigmatisation and discrimination. Therefore, they are denied access to learning instructions in public schools or any special unit for learning. The study recommends that other factors, such as sociological ones, which influence the retention of PWDs, should be investigated.

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