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Teacher Adequacy as Determinant Factor of Implementation of Free and Compulsory Education in Public Day Secondary Schools in Kitui County, Kenya

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Abstract

Transition to secondary schools in Kenya, retention and completion at Kenya Certificate of Secondary Education (KCSE) have remained below 100 percent contrary to Government's effort and desire. The low rate of transition from primary to secondary education indicates that goals of the Kenyan Government are not met, especially the Vision 2030. Hence, the purpose of this study was to determine the relationship between adequacy of teaching staff and implementation of free and compulsory education in Kitui County, Kenya. The study was founded on Liberal Educational Theory (LET) and used a descriptive study research design. The target population for the study was 655: 327 public day secondary school principals, 327 Parents Association chairpersons of those schools and Kitui County Director of Education (CDE). Data were collected from a sample of 182 respondents: 164 public day secondary school principals, 17 chairpersons of Parents' Associations (PAs) from amongst those schools as well as Kitui County Director of Education (CDE). The researchers used questionnaire to collect data from the principals while interview schedules were used to collect data from the CDE and PAs. Document review analysis was adopted to collect secondary data from the Kitui CDE's office. Qualitative data were analyzed on basis of emerging themes, while descriptive statistics were used to analyze quantitative data. Hypothesis testing was done using the product moment correlation coefficient method and at a significance level of .05. The study findings showed that there was a negative and significant ($r = -.722$; $p \leq .01$) relationship between teacher inadequacy and transition and completion rates. Considering the afore-stated results, the study made the conclusion that the indirect relationship between the study variables negatively affected the implementation of free and compulsory education within the public day secondary schools in the study area in particular and the whole of Kenya in general. On this basis, the study recommended that TSC should employ adequate number of teachers, a situation that would also reduce burden of charging salary levy on learners to engage Board of Management (BOM) teachers. Secondly, TSC should ensure quick replacement of teachers who leave the profession through natural attrition, to ensure effective unperturbed execution of the free and compulsory education in public schools. This would improve transition, retention and completion rates in the public day secondary schools in Kenya.

Keywords: Adequacy of teaching staff; determinant; public day secondary schools; free and compulsory education; implementation.

Introduction

Balestrino, Gazzimi and Luporini (2013) explain that education is a lasting social process by which persons acquire knowledge and skills that are necessary to enable them adapt to the life of their community. Free and compulsory education is a system of schooling that is financed using public funds and is obligatory of every child of school going age. By imposing free and compulsory education, countries ensure that no child of school attendance age is deprived an opportunity to get education, for children from both humble and rich households get chance to attend school (Heyman, 2014). Balestrino et al (2013) aver that secondary education is an instrumental level in the education system, for it connects early childhood and primary education to higher education. Moreover, the secondary education links school system to the labour market, enhances development, boosts respect for human

rights and freedoms, and enables people to participate in a free culture optimally.

The right to education is included in the Universal Declaration of Human Rights (UDHR) (United Nations, 1948). The right to free and compulsory education, more so in the elementary and fundamental stages is highlighted in Article 26 (1) of UDHR. The Convention on the Rights of the Child (CRC), adopted in 1989 further emphasizes the right of the child to education. Section 28 (a) and (b) of CRC requires every state to enact legislations that minimize social and financial constraints to primary and secondary schooling (CRC, 1989). Despite the approval of the CRC and ratification of Education for All (EFA) 1990, Millennium Development Goals (MDGs) 2000 and Sustainable Development Goals (SDGs) 2015, by most countries, some of the countries have persistently charged tuition fee on learners. The imposing of tuition fee poses excessive challenge to accessing secondary education by learners from economically challenged households (Heyman, 2014). This therefore means that governments should enact legislations and policies that guarantee that basic education is free, compulsory and executable, described by high rates of transition, retention and completion.

Massachusetts was the first state in United States of America (USA) to pass universal public education law in 1642 (Alec, 2007). The law imposed compulsory school attendance for children aged 7-16 years. Application of the law spread to other states until 1918 and Mississippi became the last state to enact the law. The law is meant to force demographic minorities across America to enroll into public schools and to acquire education. The acquisition of education equips one with knowledge and skills to contribute optimally to development and progress of his/her society. Each USA state and local government has an obligation of funding education to the tune of 90 percent with the federal government contributing 10 percent of the national education budget (Alec, 2007). Implementation of the free and compulsory education ensures that every child in the USA has access to free public primary and secondary education and that there are high enrolments, retention and completion rates.

All education institutions in Cuba are public and the education sector receives one of the highest annual budget allocations to public education in the world, currently estimated at 13 percent of Cuba's annual budget (Lopez, 2017). Cuba's public education is entirely free, for government subsidizes cost of the public education at the tune of 100 percent. A 2014 World Bank report states that Cuba has the best education system and universal literacy in Latin America and the Caribbean regions (Lopez, 2017). The education is compulsory for all children aged 6-16 years and who attend primary school for 6 years and basic secondary or high school for 3-4 years. Completion rate at primary education is estimated at 99.3 percent and all graduates at this level transit to basic secondary education and then higher secondary level (pre university education) or technical/vocational institutes. Those who qualify join university education and technological polytechnics respectively. This enables Cuba to meet the goal of education for all (EFA).

In Haiti, government provides very little funds to support public education due to its low economic status (Adelman & Holland, 2015). In 2011, the Haiti government launched

universal free and compulsory program for primary schools, but not in secondary schools. The funding to the primary schools is poor and there is acute shortage of teachers in the primary schools. As a result, over 80 percent of learners in Haiti are enrolled in private primary schools. The private schools collect tuition fees to pay teachers and which makes poor families not to send children to school. As such, the net enrolment rate (NER) in primary schools is estimated at 50 percent. For there is no free and compulsory secondary education in Haiti, secondary school enrolment is estimated at 20 percent of the eligible age children. This means that the Haiti government should pass a policy on implementation of free and compulsory education at secondary level.

A report by European Commission (2018) on education and culture in Kosovo indicates that primary and lower secondary education (grades 1-9) is compulsory, but upper secondary (grades 10-13) is not. This is owed to poverty occasioned by persistent fighting with Yugoslavia for many years till 2017 when Kosovo gained recognition as a sovereign state. Additionally, upper secondary is regarded as necessary only if a pupil is aspiring to join an academic university. Besides, Kosovo has a discriminative culture, for if families are to make a decision, they prefer educating boys to girls. The non-funding of upper secondary education and the discriminative culture against girls make transition and completion rates in upper secondary remain below 100 percent. Hence Kosovo government needs to enact a policy on funding upper secondary education and educating the girl child.

The 1986 African Charter on Human and People's Rights (ACHPR) confirms observance of African countries to the principle of human and people's rights and freedoms. The rights and freedoms are contained in legal instruments adopted by the African Union (AU) and in the universal declarations, conventions and treaties ratified by AU. Article 17 (1) of the ACHPR stipulates that; every individual shall have the right to education. Article 11 (3) of the African Charter on the Rights and Welfare of the Child (ACRWC), articulates requirements on the right to free and compulsory basic education for the child (ACRWC, 1990).

In accordance with ACRWC provisions, Uganda introduced universal primary education (UPE) in January 1997. This led to doubling of enrolment in primary schools in a period of 2 years in Uganda. The call for secondary education by children who were successfully finishing primary schooling under UPE in Uganda led to offering of Universal Secondary Education (USE) in 2007. Titeca and Lisa (2015) did a study on the impact of USE on enrolment in Uganda. The study found out that USE had had a continuous positive impact on enrolment. The positive impact had been facilitated by the policy on automatic promotion to the next class irrespective of performance in formative tests in previous classes.

Government of Ghana introduced free education in 1995 by committing to providing Free Compulsory Universal Basic Education (FCUBE) by 2005 (Melara, 2014). The Ghana FCUBE covers eleven years; 2 years of kindergarten, 6 years of primary schooling and 3 years of junior high school. The objective is to eliminate tuition fees, thereby increasing enrolment. Due to irregular disbursements of funds by government, parents pay mandatory extra fees in the name of Parents Teachers Association (PTA) dues to

cater for school repairs, cultural activities and sports. For many low income families are unable to afford, they do not send their children to school. This resulted in 40 percent of children aged 6-11 years being pushed out of schools in Ghana (Melara, 2014).

A UNESCO report, (2017) shows that primary education in South Sudan is free and compulsory, but secondary education is not, for the education at this level is not a priority as pertains to government spending. This is due to difficult economic conditions in South Sudan. Due to decades of war with former parent country – Sudan and neighboring countries, South Sudan is forced to spend highly on security with consequent neglect of education (UNESCO, 2017). This has led to inadequate resources and infrastructure in secondary schools, hence low transition, retention and completion rates. This means that free and compulsory education policy in secondary school level in South Sudan is not yet implemented.

Education is officially compulsory in the State of Eritrea for children aged 7-16 years. But because infrastructure is not sufficient, it becomes challenging to accommodate all eligible learners (Mengesha & Tessema, 2019). The education is only free at basic level, attributable to low economic status. The poor economic status is occasioned by 30 years of fighting and struggle for liberation, gained in 1993 from its mother country – Ethiopia. Unfavorable agro ecological climate and hence food insecurity also contributes to the low economic status. Due to non-financing of the education at secondary level by government and insufficiency of infrastructure, only 57 percent and 21 percent of school age children participate in primary and secondary schooling respectively (Mengesha & Tessema, 2019).

The above enrolment percentages are indicative of huge wastage along educational system from primary to secondary despite the fact that the Eritrean government has unrelenting effort to build schools and staff the schools with trained teachers. Because of teacher shortage, learner-teacher ratios are high estimated at 45:1 at the elementary level and 54:1 at secondary levels. On average, the elementary level classrooms accommodate 63 learners each on average while secondary level classrooms accommodate 97 learners. The inadequacy of infrastructure, notably classrooms which are also crowded and teachers' shortage lead to high dropout, hence poor transition rate to secondary and completion rate at the secondary school level.

Kenya is not only a signatory to the afore-stated global and regional declarations and charters, but also party to EFA (1990), MDGs (2000), Universal Primary Education (UPE) 2000 and SDGs (2015) commitments. This obligated Kenya to reintroduce Free Primary Education (FPE) in 2003 after failure of initial attempts to offer free education at primary school level (Republic of Kenya, 2003). Five years down the line and due to successful implementation of the FPE, Kenya introduced Free Secondary Education (FSE) in 2008 (Republic of Kenya, 2008). To ensure equal chances for all learners leaving primary schools, the Government of Kenya (GoK) introduced the component of compulsion in 2010 and hence free and compulsory basic education in Kenya (Constitution of Kenya, 2010). Chapter 4- the bill of rights, article 53 (b) of the constitution requires that every Kenyan child be accorded an opportunity to acquire free and compulsory basic

education.

In 2017, the government of Kenya dedicated to pay Ksh 22,244 per year per each public day secondary school learner, with parent /guardian left only with duty of meeting cost for lunch meals and uniform. This hence made the day public secondary education totally free and compulsory. This effort is aimed at achieving SDG 4 aspect of making secondary education universal. School stakeholders inclusive of head teachers, parents, provincial and county administrators are obliged to enforce school attendance with a view to boosting implementation of the free and compulsory secondary education policy (Basic Education Act, 2013). Section 28 (1) of part IV of the Act has provision for implementing the right of every child to free and compulsory basic education. Sections 30 and 40 of part IV of the Act make parents/guardians and head teachers accountable for ensuring children attend school.

The independent variable related to implementation of free and compulsory education policy (the dependent variable) and identified for this study is adequacy of teaching staff. Teaching staff is staff utilized in implementation of set curriculum (Crocket & Villanueva, 2018). The teaching staff has the most direct involvement with students in classroom and outside classroom. Oakes (2002) on a study of Education Inadequacy, Inequality and Failed State in California found out that many Californian schools were poorly staffed with teachers, and some of the teachers were of low qualification. This resulted in teacher centered teaching methods and which demotivated learners, forcing some of them to drop out of school.

Titeca and Lisa (2015) researched on the impact of Universal Secondary Education (USE) on educational attainment and performance in Uganda. The research found out that USE had led to a teacher-student ratio of 1:85, hence worsening of academic performance and decline in Net Enrolment Rate (NER). A study on teachers' level of adequacy and their effectiveness on curriculum implementation in Kakamega South sub-county primary schools was carried out by Lidoro and Orodho (2014). The study found out that teaching load was 45 lessons per teacher per week, instead of 27 as recommended by Teachers Service Commission (TSC). This led to low quality teaching and learning which occasioned dropping out of demotivated learners, hence reduction in completion rates.

The Government of Kenya legislated the free and compulsory education policy with a view to achieving 100 percent transition to and completion rates in secondary schools (Constitution of Kenya, 2010). Nevertheless, the 100 percent transition and completion rates in public day secondary schools in Kenya may not be achieved. This is on account that some schools continue to experience inadequacy of teaching staff. For example, nationally, 942021 learners sat KCPE in 2016 and out of which 748021 transitioned to form one in 2017. This represented a transition rate of 79.4 percent (MOE, 2021). Similarly, in 2020/2021 out of the 748021 learners who enrolled in form one in 2017, 5441 did not sit KCSE. This led to a completion rate of 99 percent in the whole country. On the same note, of the 2020/2021 academic year KCPE candidature, 117000 out of 1179192 candidates had not joined form one by 23rd August 2021. This resulted in a national transition rate of 90 percent (MOE, 2021). By 12th

September 2021, 26564 of the 2020 KCPE candidates had not enrolled in form one out of the 1171265 learners invited to enroll in form one by MOE. This indicated a 97.7 percent transition rate. The 26564 figures, was arrived at after the education cabinet secretary concluded an exercise meant to net learners who had not reported to secondary schools for form one admission.

Statement of the Problem

Out of 2017 Kenya Certificate of Primary Education (KCPE) candidature of 36940, only 29572 enrolled in form one in Kitui County, resulting in a transition rate of 80 percent. By February 10th 2019, 15 percent of the total candidature in 2018 KCPE in Kitui County had not enrolled in form one. This meant a transition rate of 85 percent according to Ministry of Education (MOE) report (MOE, 2019). Correspondingly, 89.9 percent of the Kitui County 2019 KCPE candidates had enrolled in form one by February 11th 2020 as indicated by National Education Management Information System (NEMIS) data and reported by Ndiewo (2020). Kitui County was not among 17 counties that had attained 100 percent transition rate by the 12th September 2020 conclusion of the mop up exercise led by Education cabinet secretary (MOE, 2021).

Mwangi (2018), did a study on influence of educational subsidies on completion rate in public day secondary schools in Kitui County. The study found out that secondary school completion rate was low at 72.8 percent in 2018. Comparably, Kitui County admitted 23,066 form ones in 2016 out of which 19,716 sat KCSE in 2019 (Kitui County Education Office, 2020). This translated to a completion rate of 85.5 percent. Similarly, Kitui County enrolled 24132 form ones in 2017, out of which 21496 registered for KCSE in 2020 resulting in a completion rate of 89.1 percent (Kitui County Education Office, 2021).

County government of Kitui runs a program in favor of poor learners and which awards bursaries to secondary school students from economically challenged families, while the National Government Affirmative Action Fund (NGAAF) gives water tanks to schools and hygienic towels to female learners. Moreover, the Kitui County National Government – Constituency Development Funds (NG-CDFs) have committed themselves to finance construction of study rooms and other structures in schools as well as awarding bursaries to students from financially deprived families (Kitui County Government, 2013). This effort is geared towards ensuring steady participation of students and further foster transition, retention and completion rates in Kitui County. Regardless of the concerted effort by both the national and Kitui County governments, retention and completion rates in secondary schools in Kitui County have remained below 100 percent. The less than 100 percent transition and completion rates coupled with the fact that no study has been done on relationship between teacher adequacy and implementation of free and compulsory education in public day secondary schools in Kitui County, Kenya defined the need for this study.

Study objective

The objective of the study was to establish the relationship between teacher adequacy and implementation of free and compulsory education in public day secondary schools in Kitui County, Kenya.

Study null hypothesis

H₀: There is no statistically significant relationship between adequacy of teaching staff and implementation of free and compulsory education in public day secondary schools in Kitui County, Kenya.

Review Of Related Literature

Adequacy of teaching staff and implementation of free and compulsory education.

Teaching staff is staff utilized in implementation of set curriculum programs in the school. The staff has the most direct involvement with students in curricular programs. Hence, neither school nor student can succeed without enough teaching staff. A study by Crocket and Villannueva (2018) on staffing levels in schools in United States of America (USA), found that there was higher student teacher ratio than the recommended ratio of 22:1. This led to crowded classes resulting in poor academic outcomes due to lack of individualized attention to more needy learners by teachers. The poor academic performance resulted in dropping out of some learners, hence lowering completion rate.

Shortage of qualified teachers and support personnel in lower secondary schools in England has been reported to reduce schools' capacity to provide quality instruction (Micklewright, Jerrim, Vingoles & Jenkins, 2014). A Teaching and Learning International Survey (TALIS) report by Micklewright et al (2014) shows that a teaching load averages 46 hours per week per teacher. This is against the recommended teaching load of 22 lessons per teacher per week. The overworking of available teachers due to teacher shortage negatively affects quality of instruction. This makes some learners score poorly in formative and summative examinations, hence some of them dropout before completion, resulting in lowered enrolment and completion rates.

In some Organization for Economic Cooperation and Development (OECD) countries notably Luxembourg, Jordan, Thailand, Turkey and Shanghai-China, teacher shortage hinders effective instruction (OECD, 2013). The shortage of qualified teachers is more in public secondary schools than in private schools and the same applies to rural schools in relation to town schools. On the same, principals in urban schools reported more teacher shortage than principals of city schools. Similarly, schools with more teacher shortage have reduced individual learner attention by teachers, unlike in schools with enough teachers (1:25) or low ratio of teacher to learners. The schools with greater levels of teacher shortage tend to score poorly in formative and summative examinations (OECD, 2013). As a result, learners who continually perform poorly in formative examinations opt to drop out, thus lowering completion rates.

Oakes (2002), notes that many Californian students, mainly those in high poverty schools do not have sufficient teachers, among other woes such as inadequate teaching and learning materials and facilities; as well as overcrowded classrooms. The inadequacy of teachers and poor qualification of some, pose obstacles for students as they endeavor to meet the content standards set by state and pass state tests. The state tests are required for grade-to-grade promotion and high school graduation as well as qualifying for competitive opportunities in college and job market. This leaves some learners with an option of dropping out.

Titeca and Lisa (2015) note that the introduction of Universal Secondary Education (USE) in Uganda in 2007 led to congested classes and low teacher morale. The two did a study on the impact of USE on educational performance and enrolment in secondary schools. The study found out that the average teacher-student ratio was 1:85 whose result was worsening of school performance in academics. The low teacher-student ratio was occasioned by failure of Ugandan government to employ enough teachers to accommodate the large increase in secondary schools enrolment. This led to teacher centered teaching which discouraged learners, with some dropping out of school leading to lowered enrolment and completion rates.

The declaration of free and compulsory primary and secondary education in Ebonyi State of Nigeria in 1999 led to a remarkable increase in enrolment (Okorie & Okoli, 2014). As a result, the number of qualified teachers on ground became too few to match with the high enrolment. This led to school parent teacher associations (PTAs) employing additional teachers to fill the gap occasioned by shortage of state employed teachers. The teacher shortage was more acute in rural areas where most families are economically disadvantaged. Families who were unable to pay the levy meant for remunerating the PTA teachers had their children dropout of school leading to reduction in completion rates.

Chimwaza (2015) conducted a study on challenges in implementation of inclusive education in Malawi. The study adopted exploratory qualitative case study research design and a sample of 28 head teachers. The study found out that one of the main challenges was inadequacy of trained teachers. The adequacy of teachers was more necessary for learners with disabilities learn and function better when they attend school with their normal peers (Chimwaza, 2015). The study concluded that the state needed to train and post enough teachers for effective implementation of inclusive education and which would boost enrolment and retention of disabled learners.

Research on effects of shortage of teachers on curriculum implementation in community secondary schools in Tanzania was done by Godfrey (2013). The study used descriptive survey design and 120 respondents who included 72 students, 6 heads of schools, 24 teachers and 18 community members. The study found out that shortage of teachers was a major hindrance to implementation of curriculum. The inadequacy of teachers led to some subjects being taught ineffectively and others not taught at all. Resultantly, school administration used various strategies to alleviate the inadequacy of teachers which included engaging form 6 leavers, part time teachers and doing remedial teaching (Godfrey, 2013). Failure to teach some subjects led to some learners being dissatisfied hence their dropping out of school, a situation that led to reduction in enrolment and completion rates.

In Kenya, Lidoro and Orodho (2014) did a study on level of teachers' adequacy and its effectiveness on curriculum implementation in public primary schools in Kakamega South Sub County. The study adopted survey research design and a sample of 93 respondents; 23 head teachers, 69 members of school management committee and 1 sub county quality assurance and standards officer (SCQASO). The study found out that Free Primary Education (FPE) introduced in 2003 by the government led to escalation of teaching load reaching a high of 45 lessons per teacher per

week instead of the recommended maximum of 27 by TSC. This resulted in learning ineffectiveness, which discouraged some learners and hence dropped out lowering completion rate.

Waita, Mulei, Mueni, Mutune and Kalai (2015) studied pupil-teacher ratio (PTR) and its impact on academic performance in KCPE in central division in Machakos County. The study employed descriptive survey research design and 24 schools sampled out of 78 public primary schools in the study area. Respondents for the study included head teachers of the sampled primary schools, subject teachers, county staffing officer, county examination officer and county quality assurance and standards officer (QASO). The study found out that there was high PTR, leading to teacher overload and ultimately shoddy performance in KCPE. Waita et al (2015) recommended that TSC should employ enough teachers to meet recommended PTR or MoE enacts a policy to ensure that schools admit pupils based on recommended PTR.

Musyoka, Cheloti and Maithya (2018) did a research on influence of teacher adequacy on students' performance in KCSE in public secondary schools in Kathiani sub-county Machakos, County, Kenya. The study used descriptive research design and 90 respondents consisting of 9 head teachers and 81 heads of departments (HODs). The study found out that there was teacher inadequacy occasioned by lack of replacement once teachers transfer to other schools or exit service through natural attrition. The study further found out that teacher sufficiency had significant positive relationship with performance in KCSE and hence recommend that TSC should be doing immediate replacement of teachers who transfer or exit service so as to maintain a steady availability of enough teachers based on recommended student-teacher ratio (STR) and curriculum-based establishment (CBE).

Nituara (2014) researched on factors influencing implementation of free primary education program in Mbeere North district. The study employed descriptive survey research design and sample size of 184 respondents consisting of 20 head teachers, 160 teachers, 3 quality assurance and standards officers and 1 administrator. Questionnaires and interview schedules were used to collect data for the study. The study found out that there was teacher inadequacy which led to higher teacher: learner ratios. This resulted in much less attention to individual learners. The poor attention to individual learners would eventually lead to dropping-out of some learners, culminating in reduced completion rates. The study recommended that government should staff schools with adequate teachers for there to be effective implementation of free primary education in Mbeere North district.

While responding to a parliamentary committee on education, the education CS was categorical that massive teacher shortage at secondary schools and which stood at 5829 was a big constraint towards achieving 100 percent transition to secondary schools (DN,2020). The education CS further stated that many schools were operating on a 1:70 teacher: student ratio rather than the recommended 1:45 ratio by TSC. A teacher-learner ratio of 1:70 would make teachers overworked, demotivated and most likely leave the profession for other engagements which are better paying and have a conducive working environment. Teachers who chose to stick to the profession may have worked without an iota of dedication and resorted to usage

of teaching methods that are teacher friendly like lecture method. This poses a real threat of many learners dropping out of school due to lack of being engaged by teachers leading to diminished learner completion rates.

The government policy on 100 percent transition in Northern Kenya experienced a huge set back after dropping out of school of 107556 pupils and 13478 students between March 2020 and January 2021 (Mwangi, 2021). The huge drop out was attributable to a serious teacher shortage. The problem of teacher inadequacy was so dire in some schools that only the head teacher was available and no pupils attended school. Mandera, Wajir and Garissa counties faced a combined shortage of 3010 teachers in primary schools while secondary school's teacher shortage stood at 1170. The acute teacher shortage was blamed on Teachers Service Commission (TSC) decision to pull out non local teachers on the basis of insecurity posed by Al-Shabaab. It was noted that some of the school drop outs had joined illegal groupings notably Al-Shabaab, further worsening the insecurity in the region. The dropping out of learners would slow down transition, retention and completion rates in secondary schools. According to Mwangi (2021) the Government of Kenya (GoK) needed to hire teachers through TSC to replace those who had left the region due to insecurity.

By end of 2019, Kitui County had secondary school teaching staff shortage of 2125 (Masese, 2020). This undermined the TSC's target of 40:1 learner teacher ratio and proper teacher work load for effective curriculum delivery. The teaching overload occasioned by inadequacy of teachers led to reduced learner centered teaching resulting in poor learner understanding and achievement in formative and summative examinations. The poor performance in formative examinations lowered learners' morale and hence their eventual dropping out. This study set out to determine the relationship between adequacy of teachers and implementation of free and compulsory education in public day secondary schools in Kitui County.

Study theory

This study is grounded on Liberal Educational Theory (LET) as proposed by Howe (1992). The Liberal Educational theory proposes that each country's citizen should be accorded freedom and opportunity to acquire education without any form of discrimination. School children have responsibility of utilizing the opportunities by attending and completing schooling and that their parents have a duty of providing school requirements and ensuring that the children attend and complete their schooling.

Methodology

The study used descriptive survey research design, adopting a mixed methods approach for both quantitative and qualitative data were collected. The target population was 655 respondents consisting of all principals in 327 public day secondary schools in Kitui County, all Parents' Association (PA) chairpersons of those schools and Kitui County Director of education (CDE). Kitui County has 327 public day secondary schools distributed in 17 Sub Counties. The schools were stratified according to sub counties and proportionate stratified sampling technique employed to give an equal representation of schools from each sub county. Gall, Gall and Borg (2007) assert that 20-

50 percent sample size for a descriptive survey design is appropriate.

The researchers employed simple random sampling technique to obtain half of the schools from each sub county and hence half the number of principals. A record of public day secondary schools from Kitui County Education office was utilized in sampling the schools. The procedure involved writing down all schools in a sub county on pieces of paper. The researchers then rolled the papers, put them in a tumbler and shook the tumbler. The researchers then picked half the papers and which then indicated sub sample size from that particular sub county. The process was repeated for all the sub counties and eventually added all the sub samples to get County composite sample which totalled 164 schools. All principals of the identified schools were purposively selected, to participate in the survey. This is because principals regulate execution of the free and mandatory education at school level. Kothari (2004) explains that purposive sampling is selection of respondents that fulfill specific conditions.

One school PA chairperson was selected from each sub county, using simple random technique. The technique was executed by writing the name of each school in a given sub county on a piece of paper, then rolling the papers and putting them in a tumbler. A single paper picked from the tumbler would indicate school from which to interview PA chairperson in that sub county. Hence 17 PA chairpersons were selected for interviewing. Interviewing 17 PA chairpersons enabled reaching data saturation and representativeness of each sub county (Guest, Bunce & Johnson, 2006). Six to twelve interviews enable reaching data saturation in both health and social sciences (Guest et al, 2006).

The Kitui CDE, was purposively selected for he/she oversees implementation of free and compulsory education policy in the County. The total sample was hence 164 principals, 17 PA chairpersons and 1 CDE, giving a total of 182 respondents. The study used interview schedules, document review analysis and questionnaire for data collection. The researchers established content validity of the research instruments through expert judgment. Test re-test technique was carried out to determine reliability of the research instruments. This was done by administering the questionnaire to 16 principals and the interview schedule to 2 PA chairpersons and who were not involved during the actual data collection. Qualitative data in the research instruments were transcribed and reported in narratives, according to themes in the study objectives while quantitative data were analyzed using descriptive and inferential statistics.

Research Results

Instruments return/response rate was 88.4 percent for principals' questionnaire, 82.4 percent response rate for parents' association chairpersons' interview guide and 100 percent response rate for Kitui CDE interview schedule.

Treatment of Likert Type Datin the principals' questionnaire

The clarification of research findings by use of Likert Scale determines the correctness of results. For purposes of measuring the variables as used in this study, a Likert type of scale was formulated using a scale of 1-5, where by a numerical value of 1=SD – Strongly Disagree; 2=D –

Disagree; 3=N – Neutral; 4=A – Agree; and 5= SA – Strongly Agree was employed as endorsed by Bishop & Herron (2015). Likert type of scales are satisfactory to measure a desired component where mathematical modelling is involved in data analysis, thus requiring merging indicators of various variables. Carifio and Rocco (2007) assert that during analysis of Likert scale data, one should embrace a plan where; strongly Disagree (SD) = 1 < SD < 1.8; Disagree (D) = 1.8 < D < 2.6; Neutral (N) = 2.6 < N < 3.4; Agree (A) = 3.4 < A < 4.2; and Strongly Agree (SA) = 4.2 < SA < 5.0 thus maintaining an equal distance of 0.8 unit in the scale. This weighting criteria of responses of Likert-type data advocated by Carifio and Rocco (2007) was used as an interpretation plan during data analysis in this study.

Relationship between adequacy of teaching staff and implementation of free and compulsory education

Table 1: Responses from principals on adequacy of teaching staff and implementation of free and compulsory education.

	SA	A	U	D	SD	Mean	Std. Deviation
Shortage of TSC teachers in our school makes some KCPE candidates admitted to join our school avoid joining it hence below 100% transition	38.6	44.8	-	9.0	7.6	3.98	1.20
Overworking of available teachers due to teacher inadequacy makes some subjects go untaught leading to dissatisfied learners who then drop out hence lowering completion rate	31.7	49.7	2.1	11.0	5.5	3.91	1.13
High student teacher ratio due to teacher inadequacy makes some learners go unattended to leading to some dropping out hence reducing completion rate	26.2	51.7	4.1	13.8	4.1	3.82	1.10
Inadequacy of TSC teachers leads to engagement of lowly experienced BOM teachers by our school and whose ineffective teaching leads to some dissatisfied learners dropping out, hence reduced retention and completion rates	26.2	49.0	1.4	16.6	6.9	3.71	1.22
Valid N (list wise)	145						

It is imperative to notice from Table 1 that most (83.4percent) of the principals accepted that deficit of TSC teachers in schools leads to some KCPE candidates failing to join the schools, thus leading to below 100% transition rate. Only 16.6 percent of the principals were of contrary view. On average (Mean = 3.98; sd = 1.20) therefore, most principals were of the view that teacher shortage can result in lower transition rates from primary to secondary schools, hence affecting the implementation of free and mandatory education in public day secondary schools. Pertaining teacher workload and its effect on completion rate, the study established that 81.4 percent of the principals were in conformity that overworking of available teachers due to teacher inadequacy makes some subjects go untaught, leading to disgruntled learners, hence their dropping out of school, thus pulling down completion rate. Only 16.5 percent of them contradicted the statement while 2.1 percent of them were ambivalent. Overall, the principals were in agreement that increased teacher workload may lead to some subjects being left unattended to and this would lead to learners dropping out of school and it may therefore lower completion rates (Mean = 3.91; sd = 1.13). Additionally, the study established that the mainstream (77.9 percent) of the principals were in agreement while 17.9 percent dissented that high student teacher ratio due to teacher inadequacy makes some learners go unattended to, thus leading them to drop out of school. In general, principals were of the view that when there is high student

The study attempted to determine the correlation between adequacy of teaching staff and execution of free and compulsory education in public day secondary schools in Kitui County. This parameter was measured using a five-point Likert scale whose response and scale values were given thus: 5= Strongly Agree (SA), 4= Agree (A), 3= Undecided (U), 2= Disagree (D) and 1= Strongly Disagree (SD). Results of this analysis are shown and explained in sub sections 4.1, 4.2, 4.3, and in Tables 1 and 2.

4.1 Analysis of responses from principals pertaining adequacy of teaching staff

Questionnaire for principals (QP) was used to collect data. The QP was designed to get views relating to varied aspects of adequacy of teaching staff and its bearing with transition and completion of learners. Results are presented in Table 1.

to teacher ratio, individual attention to learners is low and this often leads to students abandoning school attendance thus affecting completion rates (Mean = 3.82; sd = 1.1). Finally, the study established from greater part (75.2percent) of the principals that inadequacy of TSC teachers leads to engagement of lowly experienced BOM teachers. Accordingly, these teachers have ineffective teaching skills which leads to some dissatisfied learners dropping out of school, hence reduced completion rate. 23.1percent of the principals however opposed the aforementioned statement while nearly 1.4 percent were ambivalent. Overall, majority of the principals were in concurrence to the statement as can be seen from the average Mean index of 3.71 and standard deviation of 1.22.

4.2 Analysis of Responses from Parents Associations (PA) chairpersons pertaining adequacy of teaching staff

Interview schedule was used to collect data from the PA chairpersons. The interview schedule was devised to seek views regarding the various aspects that were under contemplation in this research study. Further, the study pursued to establish from the chair persons of Parents Associations the position of different aspects pertaining to transition and completion of learners in schools. Some of these facets yielded both quantitative and qualitative answers and are deliberated herein. Analysis of the descriptive answers from the interview schedule is as presented in Table 2.

Table 2: Descriptive analysis of the nominal item in PA interview schedule on adequacy of teaching staff.

Variable	Values	Frequency	Percent
Does following factor lower or increase transition and completion rates in your school? i) Inadequacy of teaching staff	Lowers	14	100
	Total	14	100

All the chairpersons consented that a shortfall of teaching staff decreases rates of transition and completion amid learners in public day secondary schools in Kitui County.

4.3 Analysis of responses from Kitui County Director of Education (CDE) pertaining adequacy of teaching staff

The Kitui CDE averred that inadequacy of teaching staff affected transition and completion rates negatively as they contributed to students dropping out of school.

Testing of the study null hypothesis (H0):

The null hypothesis for this study stated thus: there is no statistically significant relationship between adequacy of teaching staff and implementation of free and compulsory education in public day secondary schools in Kitui County. The result of the test is shown in Table 3.

Table 3: Correlation coefficient between inadequacy of teaching staff and implementation of free and compulsory education.

		Levies	Infrastructure	Teachers	Entry behavior	Implementation
Teachers	Pearson Correlation	.356**	.536**	1	.331**	-.722**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	145	145	145	145	145

** . Correlation is significant at the 0.01 level (2-tailed).

It is noticeable in Table 3 that the correlation coefficient concerning implementation of free and compulsory education and inadequacy of teaching staff was negative and significant ($r = -.722$; $p \leq .01$). The coefficient of determination ($r^2 = .521$) implies that a shortfall of teaching staff accounts for 52.1 percent of the difference in the implementation of free and compulsory secondary education in public day secondary schools in Kitui County. Accordingly, more inadequacy of teaching staff leads to lower implementation of free and compulsory education. This has implication that inadequacy of teaching staff has the probability of lowering transition and completion rates, thus adversely impacting on the implementation of free and compulsory education in public secondary schools in Kitui County. Conclusion was hence rejection of the null hypothesis statement that there is no statistically significant relationship between adequacy of teaching staff and implementation of free and compulsory education in public day secondary schools in Kitui County.

Discussion of The study Findings

Relationship between adequacy of teaching staff and implementation of free and compulsory education

Findings from this study indicate that there was inadequacy of teaching staff in schools in the study area. This negatively related with the implementation of free and compulsory secondary education. Particularly the researcher established that a greater number of the principals agreed that shortage of TSC teachers in schools made some KCPE candidates admitted to join the schools avoid joining them, thus leading to low transition. Similarly, the overworking of available teachers due to teacher inadequacy made some subjects go untaught leading to dissatisfied learners who then dropped out hence lowering completion rate. In addition, it was established that high student teacher ratio due to teacher inadequacy made some learners go unattended to, thus led to some learners dropping out, and

which reduced completion rate.

Finally, the study established that inadequacy of TSC teachers led to engagement of lowly experienced BOM teachers in schools and whose ineffective teaching led to some dissatisfied learners dropping out, hence reduced completion rate. The negative effects of the discussed aspects of teaching staff inadequacy are summarized in Table 1. The chairmen of the parents’ associations also corroborated these findings by saying that inadequacy of teachers in schools led to reduction of transition and completion rates in schools. That negatively affected the implementation of free and compulsory secondary education as shown in Table 2. The County Director of Education also averred that shortage of teachers in schools led to students dropping out of school for being unattended to as narrated in sub section 4.3. Null hypothesis (H0): There is no statistically significant relationship between adequacy of teaching staff and implementation of free and compulsory education in public day secondary schools in Kitui County test result ($r = -.722$; $p \leq .01$) showed a negative and significant correlation as indicated in Table 3. The test result indicates that inadequacy of teaching staff has a negative and significant association with execution of free and compulsory education in public day secondary schools in Kitui County.

It was established that the correlation between inadequacy of teaching staff and execution of free and compulsory education was inverse. That meant that there was a negative relationship between inadequacy of teaching staff and execution of free and compulsory education. Consequently, it was inferred that the more there is inadequacy of teaching staff, the lower the transition and completion rates in schools, thus affecting application of free and compulsory secondary education policy in public day secondary schools.

These findings are further confirmed by those of Crocket and Villannueva (2018) study on staffing levels in schools

in United States of America (USA), which found that there was higher student teacher ratio thus leading to learners dropping out of school as a result of overcrowding. Similarly, Micklewright, Jerrim, Vingoles and Jenkins (2014) Teaching and Learning International survey (TALIs) report indicated that shortage of qualified teachers and support personnel in lower secondary schools in England reduces schools' capacity to provide quality instruction and leads to some learners dropping out of school, thus affecting completion rates. Titeca and Lisa (2015) carried out a study on impact of universal secondary education (USE) on enrolment and educational outcomes in secondary schools in Uganda. The study found out that USE in Uganda led to increased students to teacher ratio which led to teacher centric methods which discouraged learners, thus leading to high dropout rates from schools. In Kenya, Lidoro and Orodho (2014) did a study on level of teachers' inadequacy and their effectiveness in implementing curriculum in public primary schools in Kakamega South sub-County. The study established that inadequacy of teachers led to learning ineffectiveness which discouraged some learners and hence dropped out, thus lowering completion rate. On the same note, Waita, Mulei, Mueni, Mutune and Kalai (2015) did a study on pupil-teacher ratio (PTR) and its impact on academic performance in central division of Machakos County. Besides, Musyoka, Cheloti and Maithya (2018) carried out a study on influence of teacher adequacy on students' performance in KCSE in public secondary schools in Kathiani sub-County in Machakos County. The Waita et al (2015) and Musyoka et al (2018) studies' findings showed that teacher inadequacy negatively affected the application of free and compulsory secondary education in that it led to teacher centred methods of teaching which demotivated learners resulting in some of them dropping out of schools which negatively affected completion rates. From the foregoing discussion, it is crucial to observe that this study findings coupled with the findings that have been established by studies done elsewhere as expressed herein the literature that shortage of teaching staff leads to dropping out of some learners, hence reduction in transition and completion rates. Without sufficient number of teachers in public day secondary schools, transition from primary schools and completion at KCSE will be low. In summary therefore, the study findings herein show that inadequacy of teachers lowers transition and completion rates in secondary schools. Consequently, this factor negatively affects the execution of free and compulsory secondary education in Kenya and in particular Kitui County public day secondary schools.

Conclusions

Relationship between adequacy of teaching staff and the implementation of free and compulsory education

Success of any curriculum implementation depends on the adequacy of well trained and skilled teachers who understand the art and science of teaching. This study therefore undertook to establish how the adequacy of teachers related with the implementation of free and compulsory education. From the findings, it was established that there was a negative and significant relationship between teacher inadequacy and the implementation of free and compulsory education. Therefore, the null hypothesis, which stated that there was

no statistically significant relationship between adequacy of teaching staff and implementation of free and compulsory education in public secondary schools in Kitui County was rejected. For that reason, conclusion was drawn that the implementation of free and compulsory education in public secondary schools relies on the availability of adequate well trained and experienced teachers without whom, free and compulsory education would be negatively affected in public secondary schools in Kenya in general and in Kitui County in particular as established by this study.

Recommendations

On basis of the findings and conclusions of this study, following recommendations regarding teacher adequacy are made:

1. TSC should employ adequate teachers, a situation that would reduce the burden of charging salary levy on learners to engage BOM teachers. This would enable learners unable to pay the salary levy not drop out hence increase completion rate.
2. ii TSC should ensure quick replacement of the teachers who leave the profession through natural attrition to ensure effective unperturbed execution of the free and compulsory education in public schools. This would ensure that learners are continuously attended to by teachers, hence not develop tendency of dropping out.

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