

Influence of Pupil-teacher Ratio on Performance in Kenya Certificate of Primary Education in Makueni County, Kenya

Kanini Nyiwa¹, Redempta Maithya (PhD)², Anthony Mungai Gathumbi (PhD)³

¹*Syethe Primary School P.O. Box 44-90303, KITISE*

²*Department of Educational Administration and Planning South Eastern Kenya University
P.O. Box 170 – 90200, KITUI*

³*Department of Education Technology Dedan Kimathi University of Science and Technology
P.O. Box 657-10100, NYERI*

ABSTRACT: *The purpose of this study was to investigate the influence pupil-teacher ratio on KCPE performance in Kitise Division, Makueni County. The study used descriptive survey design. The target population comprised of 24 head teachers and 172 teachers. The sample for the study was 24 head teachers and 119 teachers. This study used questionnaires to collect data while descriptive statistics were used to analyze data. Findings revealed that high pupil-teacher ratio in the schools affected KCPE performance. Based on the findings of the study it is recommended that the government should employ more teachers to counteract the high number of pupils in schools so that performance can be improved. It is also recommended that the government should build more primary schools to decongest existing ones in Makueni County.*

Key words: *Free Primary Education, performance, pupil-teacher ratio.*

I. INTRODUCTION

Education is often viewed as one of the primary drivers of economic development. In conjunction with donors and non-governmental organizations, developing countries have invested heavily on efforts aimed at achieving the Millennium Development Goals (MDGs) of universal primary education by 2015. Education concerns itself with the acquisition of knowledge, skills and attitudes which are relevant to the survival of human beings. The United Nations Educational Social Cultural Organization (UNESCO, 2005) contends that up to 20% of the world's income growth could be traced to education. According to United States Aid (USAID 2001), education is the key to sustaining democracies, improving health, increasing per capita income, and conserving environmental resources. In this context, education can be seen as an investment in human skills which help to foster economic growth, enhance productivity, contribute to national and social development, and reduce social inequality.

School fees have often been found to be a major deterrent to educational access, and to have large negative effects on take-up of educational services in a variety of settings (Holla & Kremer, 2008). Consequently, governments have instituted policies that reduce or eliminate education fees in order to boost school enrollments. While developing countries in Latin America have generally chosen targeted fee reduction schemes, many African countries, in contrast, have eliminated public education fees for all students. The introduction of Free Primary Education (FPE) in Kenya in 2003 meant the abolition of school fees and levies for tuition. As a result, the Government and development partners were responsible for the costs of basic teaching and learning materials, wages for staff and co-curricular activities. Parents and communities were not required to build new schools but to refurbish and use existing facilities which included community and religious buildings. The development partners who have continuously funded the Free Primary Education (FPE) program in Kenya include the World Bank, the British Government through its international development agency, Department for International Development (DfID), Organization of the Petroleum Exporting Countries (OPEC), UNESCO and the Swedish Government (GOK, 2005).

On the one hand FPE in Kenya achieved its objective of increased participation in primary school learning. However, it created a myriad of problems also witnessed in other developing countries which were implementing it over the same period (Sifuna, 2007). These included insufficient teaching and learning facilities, overcrowding in class rooms, high pupil to teacher ratio, and pupil to text book ratios. Consequently in Kenya, these further led to reduced enrollment, poor quality of education and high dropout rates of pupils from public primary schools, defeating the purpose of FPE (Sifuna & Sawamura, 2008)

In India FPE led to the congestion of pupils in classrooms, making teaching and learning, uncomfortable. Physical facilities were over stretched while teaching aids were inadequate. In contrast, a study conducted in Nigeria indicated that enrolment in schools represented the largest component of investment in

human capital (Schultz, 2002). Schools' enrolment increased from 5.0% to 24.9% in Nigeria. Girls' percentage increased from 48.5% to 49.0% with teacher to pupil ratio of 1:30. This led to an increase in enrolment from 74.3% in 2000 to 135% in 2001. As a result of this, classrooms were congested, the teacher-pupil and pupil-textbook ratios rose to 1:55 and 1:4 respectively (Obasi, 2000)

Free Primary Education (FPE) is not a new phenomenon in Kenya. Vos, Bedi, Kimalu, Manda, Nafula and Kimenyi (2004) observe that since independence in 1963 the Kenya government has committed itself to providing education to all primary school age going children. UNESCO (2006) though notes that the original FPE can be traced back to the 1948 Declaration of Human Rights where article 26 stipulates that 'elementary' education shall be free and compulsory. The National Rainbow Coalition (NARC) government abolished the user charges in primary education and was committed to supporting FPE by providing instructional materials, teachers, and quality assurance services (Irin, 2006). This move resulted to an increase of about 1.3 million children in public primary schools in 2003 that translates to a Gross Enrolment Rate (GER) of 104 percent (RoK, 2005b).

Kenya is one of the 189 United Nations (UN) member states which have committed themselves to achieving the Millennium Development Goals (MDGs) whose second goal is to achieve Universal Primary Education (UPE). The target of this goal was to ensure that by 2015, children everywhere, boys and girls alike were able to complete a full course of primary school (RoK, 2005). However, since 1990's the country has been facing a daunting challenge of increasing pupil-teacher ratio (PTR) due to escalating teacher shortages. The situation grew worse with the introduction of FPE in 2003. The implementation of FPE programme witnessed a 10% increase in enrolment in primary schools nationally (MOEST, 2006). A record 1.3 million children registered in various schools across the country, raising the enrolment from 5.9 million in 2002 to 7.2 million in 2003 (MOEST, 2009). This sharp increase in enrolment rejuvenated into challenges of FPE in the country (Wamukuru, Kamau & Ocholla, 2006). For instance, the number of pupils exceeded the available human and physical facilities in the country while the (PTR) steadily increased from the recommended 40:1 to between 60:1 and 90:1 (MOEST, 2009).

The recommended PTR for public primary schools in Kenya is 40:1 (TSC, 2006) which is also the ideal ratio set by UNESCO and other international standards. This is not the case since the situation is grimmer in arid and semi-arid areas as well as in the slums of urban areas where the ratio is over 100 pupils per teacher (UNICEF, 2005). The quality of education in Kenyan primary schools was once again brought into focus by the September 2010 teachers strike countrywide when the Kenya National Union of Teachers (KNUT) national secretary was quoted saying that schools have continued to post poor results in KCPE with high PTR taking the blame.

Pupils' KCPE examinations performance in the study area (Kitise Division) averaged 230 marks between 2003 and 2012 (Kathonzweni Sub County Education Office, 2014). In view of this, enrolment trends, pupils to teacher ratio, pupils to textbook ratio and physical facilities undermine KCPE examinations performance in the region. Although the introduction of (FPE) has occasioned the provision of funds to the public primary schools, pupils performance in these schools continue to perform poorer in KCPE than those from private primary schools who pay high school fees. Thus most pupils admitted to National schools are from private schools (Barasa & Ngugi, 2011). For instance in 2009 out of 1374 candidates who sat for examination in Kathonzweni Sub County, none gained admission to secondary schools. KCPE results of Kitise Division have been poorer than the overall results of the Kathonzweni Sub County. Statistics in performance in KCPE examinations in Kathonzweni Sub County indicated that the sub county recorded a mean score of 232 marks between 2003 and 2012 while in Kitise Division it has been recording an average score of 230 marks in KCPE which is below the sub county mean over the same period (Kathonzweni Sub-county Education Office, 2014). This study therefore sought to investigate the influence of pupil-teacher ratio on KCPE performance in Kitise Division, Makueni County.

Study objective

The study was guided by the following objective: To investigate the influence of pupil-teacher ratio on KCPE performance in Kitise Division, Makueni County.

II. LITERATURE REVIEW

While increased enrolments may suggest school systems have increased their capacity to accommodate more children, this did not necessarily translate into improved educational quality. Though developing countries have been able to improve the percentage of literacy to impress the international fraternity, the quality of education provided has been a major concern due to congested classrooms resulting from high enrolments. One of the major indicators of quality is the pupil-teacher ratio (PTR).

The PTR in most developing countries is in a worrying state. UNESCO (2006) estimated that over 84 per cent of classrooms in developing countries had over 40 pupils per teacher. Majority of the countries that

have PTR exceeding 40:1 are in Sub-Saharan Africa and Asia. Sub-Saharan Africa has the largest PTR with Congo having a PTR of 54:1, Mali 55:1, Mozambique 67:1, Rwanda 65:1, Ethiopia and Malawi hovering around 70:1; South Asian countries such as Afghanistan with 83:1, Cambodia 50:1, and Bangladesh 50:1. (UNESCO, Institute of statistics, 2008).

The high PTR in many developing countries is as a result of large enrolments following the quest for universal primary education and the increasing teacher shortages. With such enrolments and reduced number of teachers, the available teachers face serious obstacles in an attempt to deal with over-crowded classes. These high enrolments have caused low efficiency in the schools which is one of the main reasons for the poor quality of education offered in many primary schools in the developing countries (UNESCO, 2006).

High PTR due to overcrowded classrooms affect the quality of education in resource poor schools. Brewer, Gamoran, Ehrenberg & Willms (2001) noted that PTR is a global measure of human resources brought to bear, both directly and indirectly, on children's learning. For the last one decade the debate on PTR and teacher shortage in public schools in developing countries has caused much concern in both political and educational arena. Over the same period concerns have been particularly raised regarding the alarming shortage of teachers, increased enrolments and raising PTR. This has been pointed to have detrimental impact on the quality of education pupils receive and has from time to time been addressed by political and educational leaders.

In a study done in Ethiopia, Verwimp (1999) argued that there is a negative correlation between the quality of teaching and the pupil-teacher ratio. A teacher in the classroom is a main instrument for bringing about qualitative improvement in teaching and learning activities. Such quality is maximized where there are enabling and supportive environments where the pupils participate actively in the process and where pupils, teachers and schools have opportunities for institutional growth. The pupil-teacher ratio in primary school in Tanzania was last reported at 50 and 76 in 2010, according to a World Bank report (2012). The official Basic Education Statistics in Tanzania (2010) indicates that, there has been a steady increase in pupil teacher ratios in recent years from 1:50 to 1:60 in 2011. Benjamin (2005) indicates pupil-teacher ratios in some regions in Tanzania are: 1:71 to 1:79 in both rural and urban areas. The government had set a target by the year 2002 – 2006, that the teacher-pupil ratio should be 1:40, but this has not yet been achieved due to the inconsistency with the current primary school staffing formulas of eight teachers for seven classes in rural schools and nine teachers for seven classes in urban schools.

Many studies so far have compared the performance of pupils in classes of different sizes in such cognitive subjects as reading and mathematics, but studies on the effects of pupil-teacher ratio on pupil's performance have not reached definitive conclusions. Based on this argument therefore there is need for a study in a different region to fill the gap and clarify the influence of pupil-teacher ratio on performance. The concern of this study was to assess the influence of pupil-teacher ratio on KCPE performance in Kitise Division Makueni County.

III. METHODOLOGY

The study was carried out using descriptive survey design to enable the researcher gather information to describe the influence of teacher-pupil ratio on KCPE performance in Kitise Division, Kathonzwani Sub-County, Makueni County. The target population was 24 head teachers and 172 teachers in public primary schools in Kitise Division. The sample for the study was 24 head teachers and 119 teachers who were randomly selected. Quantitative data was aligned to particular research questions. Data was analyzed using Statistical Package for Social Sciences (SPSS). Descriptive statistics methods such as frequencies and percentages were used to present data related to the influence of Free Primary Education on KCPE performance in Kitise Division, Kathonzwani Sub-County, Makueni County, Kenya.

IV. RESULTS AND DISCUSSION

The main objective of the study sought to establish the influence of pupil teacher ratio on KCPE performance. Increased enrolments may suggest school systems have increased their capacity to accommodate more children although this does not necessarily translate into improved educational quality. The study therefore sought to establish the influence of pupil teacher ratio on KCPE performance. The respondents were asked to indicate the extent to which they agreed or disagreed with statements pertaining to the influence of pupil teacher ratio on KCPE performance. The data is presented in Table 1.

Table 1: Head teachers' responses on the influence of pupil teacher ratio on KCPE performance

Statement	Strongly Agree		Agree		Disagree	
	F	%	F	%	F	%
The number of teachers is not enough in this school	13	65.0	7	35.0	0	00
Teachers are forced to handle high number of pupils in this school	4	20.0	12	60.0	4	20.0
Pupil teacher ratio is very high in this school	3	15.0	11	55.0	6	30.0
Performance has been affected by the high number of pupil teacher ratio in this school	6	30.0	11	55.0	3	15.0
There is need to increase the number of teachers if performance is to improve	11	55.0	9	45.0	0	00

Data presented on Table 1 shows that majority; 13 (65%) strongly agreed that the number of teachers were not enough in their school with 7 (35%) agreeing to the statement. While 12 (60%) agreed that teachers are forced to handle high number of pupils in their school; only 4 (20%) strongly agreed to the statement. Eleven (55%) strongly agreed that pupil teacher ratio is very high in their schools, while 6 (30%) agreed. It was also reported by 11 (55%) head teachers that performance has been affected by the high number of pupil teacher ratio in schools, while only 6 (30%) strongly agreed to the statement. On the item that there is need to increase the number of teachers if performance is to improve, 11 (55%) strongly agreed while only 9 (46%) agreed.

The researcher also asked the teachers to indicate the extent to which they agreed or disagreed with statements on the influence of pupil teacher ratio on KCPE performance. The data is presented in Table 2.

Table 2: Teachers' responses on the influence of pupil teacher ratio on KCPE performance

Statement	Strongly Agree		Agree		Disagree		Strongly Disagree	
	F	%	F	%	F	%	F	%
The number of teachers is not enough in this school	12	7.3	85	51.5	49	29.7	19	11.5
Teachers are forced to handle high number of pupils in this school	67	40.6	64	38.8	27	16.4	7	4.2
Pupil teacher ratio is very high in this school	57	34.5	61	37.0	47	28.5	0	00
Performance has been affected by the high number of pupil teacher ratio in this school	71	43.0	20	12.1	25	15.2	49	29.7
There is need to increase the number of pupils if performance is to improve	0	00	0	00	53	32.1	112	67.9

Data on the influence of pupil teacher ratio on KCPE performance as in Table 2 shows that majority of the teachers 85 (51.5%) indicated that the number of teachers was not enough in their school while on the same item, 12 (7.3%) strongly agreed. While 67 (40.6%) strongly agreed that teachers are forced to handle high number of pupils in the school, 64 (38.8%) agreed to the statement. In addition, majority of the teachers, 57 (34.5%) strongly agreed that Pupil teacher ratio is very high in the school, while 61 (37.0%) agreed.

All in all, the teachers were in agreement that KCPE performance has been affected by the high number of pupil teacher ratio in the schools as it was reported by 71 (43%) who strongly agreed and 20 (12.1%) who agreed. All the teachers disagreed that there is need to increase the number of pupils if performance is to improve as reported by 53 (32.1%) who strongly disagreed and 112 (67.9%) who disagreed. The results of the teachers and the headteachers were in agreement that teacher pupil ratio had an influence on KCPE performance. According to Benbow, Oliver & Said (2007) an ideal Pupil-teacher ratio should be 40:1. In a study done in Ethiopia, Verwimp (1999) argued that there is a negative correlation between the quality of teaching and the Pupil-teacher ratio. Another study in Kenya by Duflo, Dupas and Kremer (2008) revealed that in lower grades, reducing class size from 80 to 40 without any change does not lead to a significant increase in test scores. A similar finding was reported by Banerjee et al (2007) in India where no impact of the reduction in class size was achieved through the hiring of remedial education teachers for students who remained with a regular teacher.

V. CONCLUSIONS AND RECOMMENDATIONS

Results on the influence of pupil teacher ratio on KCPE performance in Kitise Division, Makueni County showed that majority of the head teachers and teachers were of the opinion that the number of teachers was not enough in their schools. It was also reported that academic performance has been affected by the high number of pupil-teacher ratio in the schools. The study therefore concludes and recommends that there is need to increase the number of teachers if performance is to improve. The study also recommends that the government should act fast and increase the number of teachers to match the number of pupils in Kenyan primary schools so as to improve academic performance.

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