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## CLASS SIZE AND ACQUISITION OF READING SKILLS AMONGST GRADE III PUPILS IN KENYENYA SUB-COUNTY, KENYA

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#### **ABSTRACT**

Reading skills forms the basis upon which all other learning and academic skills are based. Early acquisition of reading skills among pupils forms the foundation upon which language and literacy learning is built. Developing children's reading skills remains a major concern of many governments' worldwide and important international Agencies. Whereas an incredible rise in enrolment has been realized at primary school levels due to free primary education in Kenya, still a big number of pupils have low levels of reading skills. This study intended to assess the influence of class size on acquisition of reading skills among Grade III pupils in Kenyenya Sub-County. This study was guided by the Group Dynamics Theory developed by Kurt Lewin in 1943. This study adopted a descriptive survey research design targeting all the Grade III pupils, their class teachers and head teachers of all 77 public primary schools in Kenyenya Sub-County. Purposive and stratified random sampling techniques were used in selecting a 30% sample that participated in the study. Questionnaires, interview guides and observation schedule were used to collect Data. Quantitative data was analyzed thematically while quantitative data was analyzed descriptively. The study outcomes revealed that most public primary schools had large enrollments with over 40 pupils in a class. The results also showed a significant relationship (p-value=0.000<0.05) between class size and acquisition of reading skills. The study concluded that class size has an influence on how pupils acquire reading skill which has a great effect on their overall academic achievement. This study recommended that the government of Kenya through the ministry of education should come up with a policy of reducing the class sizes by employing more teachers.

Keywords: class sizes, decoding, reading skills, teacher-pupil ratio

#### 1. INTRODUCTION AND BACKGROUND

Reading skills forms the basis upon which all other academic skills are built. It is documented as the most vital skill that enhances academic accomplishment in the formal education structure globally. According to Ehri (2013), early attainment of reading skills among pupils forms the groundwork upon which language and literacy knowledge is constructed. Pupils who do not master reading skill early usually have trouble gaining many other ideas leading to reduced academic attainment (Calderon, Slavin& Sanchez 2011). Acquisition of reading skills is critical for children's academic progression. It's the base for better grades in school, social life, developing independence, managing and working. Successful acquisition of reading skills during the lower primary levels is a good indicator of later literacy achievementwhich leads to acdemic success (Lonigan, Allan & Lerner, 2011)

Reading is a multifaceted process that involves a number of associated skills. Several aspects participate to the acquisition of reading skills among pupils. Class size (number of pupils supported by a teacher at a given time) is one such vital school elements that influence pupils' acquisition of reading skills. The number of pupils in any given class is likely to affect the methods of classroom instruction and finally their academic success. Barr and Dreeben (2002) indicated that classroom instruction is more likely to improve in small class size as compared to large classes. Blatchford, Moriarty, Edmonds and Martin, (2002) pointed out that pupils of primary school age in smaller classes were more likely to interact with their teachers, there was more one-to-one teaching, and pupils were more often the focus of a teacher's attention. Individual children in small classes therefore received more interactions with their teachers of a task-related nature.

In many countries all over the world, there has been a hotly contested and widely reported debate over the educational consequences of class size differences. Opinions vary from those of academics and policy makers who argue that class size reduction is not cost effective to those who argue that it should be a cornerstone of educational

policy. However, those countries that have realized the positive benefits of smaller classes such as USA, England, Netherlands, New Zealand and Scotland among others, have changed policy in favor of small classes. In these countries, the average class numbers range from 17-30. In spite of the controversies over class size, research evidence shows that small classes have a positive impact on pupils' academic achievement. For instance, the STAR project by the Tennessee State Department and CSPAR project in the United Kingdom among others demonstrate that having fewer students in a class has a high positive effect on their academic success.

Likewise, many studies done confirm that classes with high enrolments impacts negatively on pupils' test scores in the short run as well as the long-run human capital formation (AzimvPremji Foundation 2006; Fredriksson, Öckert, &Oosterbeek, 2013; and Chetty, Friedman, &Rockoff J. 2013). Accordingly, Barr and Dreeben (2002) report that classroom instruction is likely to be better with fewer pupils as compared to classes with high enrolment numbers. Schanzenbach (2014) also was of the opinion that classes with low enrollment may perform better due to the fact the atmosphere is better in the class, learners can receive more individualized attention and facilitators can employ different teaching methods and approaches when teaching. Further, there is a likelihood of improved teacher-pupil interaction and rapport between teachers and pupils in smaller classes.

Numerous studies have been carried out concerning the effects of class size and learners' academic success. For example, in Turkey, <u>Nizamettin and Bekir</u> (2015) examined the relationship between number of scholars per teacher and their academic achievement. In this study 81 cities in Turkey were involved. Data collected was analyzed using Spearman Rho's technique. The study outcomes indicated a significant correlation of -0.561 between class enrollment and student performance. Further, the results reveled that in schools with large class enrollment, there was a tendency of low achievement among the scholars.

Blatchford, Bassett and Brown, (2011) employed multilevel regression methods to assess the influence of pupils' classroom participation and teacher-pupil interactions and their achievement. A sample of 686 participants drawn from 49 Primary and Secondary schools took part in the study. Low classroom participation was noted in classes with large numbers of scholars and especially among low performers at secondary level.

Arum and La Free (2008) found out there was a close relationship between educational achievement and teacher-pupil ratios on individual incarceration risk for five-year birth cohorts, beginning in 1910. Using the fixed effect control methodology, the result of the study indicated that educational resources measured as teacher-pupil ratios were linked with reduced adult incarceration risk.

In Nigeria, Yusuf, Onifade and Bello (2016) explored the effect of class size on scholars' learning, behavior and attitudes. A sample of 360 scholars selected from 4 secondary schools participated in the study. The study showed a significant relationship of (p< 0.05) between class size on scholars' attitude.

In Kenya Kiumi, Kibe and Nganga (2013) examined the impact of Pupil-Teacher Ratio (PTR) and school location on KCPE examination performance. The results indicated that high PTR impacted negatively on pupils' progression through primary school curriculum leading to poor performance in KCPE examination. In particular, pupils in high PTR schools indicated low performance in KCPE examination compared with learners from low PTR schools.

Majanga, Nasongo and Sylvia, (2011) evaluated the effect of class size on classroom relations during Mathematics. The study outcomes revealed that Free Primary Education (FPE) policy led to increased enrollments in schools, class sizes and Pupil-Teacher Ratios. The increased class sizes influenced teacher-pupil interaction and pupil-pupil interaction.

Despite the fact that an implausible rise in enrolment in primary schools in Kenya has been realized due to Free Primary Education policy in Kenya, big percentage of pupils in primary schools have difficult in reading skills. In still a Kenyenya Sub-county in particular, more than 70% of the Grade III pupils read below National levels (Uwezo 2014). In Kenyenya Sub-county in 2011, only 8% of Grade III pupils could read a class two level story in English while in 2013 only 11% could. Ouko (2015) also reported that in Kenyenya Sub-County pupils in lower levels did fairly well in numeracy compared to literacy.

Numerous studies have been conducted on class size as stated earlier. However, few of them have cross-examined the extent to which class size affect the acquisition of reading skills among Grade III pupils. Therefore, it is on this basis that this study sought out to examine the influence of class size on the acquisition of reading skills among the Grade III pupils in Kenyenya Sub-County in Kenya.

#### 2. THEORETICAL FRAMEWORK

The Group Dynamics Theory was the basis of this study. This theory was developed by Kurt Lewin in 1943 and concerns on how groups form, their structure and processes and how they function. It also describes how groups and individuals behave in different circumstances. One of the basic assumptions of this theory is that for a group to accomplish set goals and objectives there should be a pattern of communication and coordination. It is also assumed that a smaller group is better in attainment of the goals because of ease of effective communication and coordination mechanisms.

The theory likewise suggests that a group of 10-12 is ideal number for effective attainment of group goals. In a small group, everybody will have a chance to express his or her views and the level of interpersonal interaction is high. This theory is relevant to the study since schools are group organizations that are established to achieve academic success through interactive activities between pupils, teachers and other players in the education sector.

The effectiveness of the teaching-learning processes that leads to the attainment of the reading skills depend on the level of interaction between the teacher and the learners. The theory asserts that in a group, communication and coordination should exist, in which the attainment of goals is more probable where communication is effective. It is therefore important that there should be a constant interaction between the teacher and the pupil in order to allow effective delivery of syllabus content on reading skills. The theory was therefore used to explain the differences in performance in reading skills in classes that have different number of pupils per teacher. In other words, classes with low pupil-teacher ratio may perform better than those with a high number of pupils per teacher.

#### 3. RESEARCH METHODOLOGY

The researcher employed descriptive survey research design to explore and examine the influence class size and pupis acquisition of reading skills. Sekran (2007) indicated that descriptive survey research is suitable when producing statistical information regarding facets of education. For the purpose of credibility concurrent triangulation design was applied in this study. The researcher collected both qualitative and quantitative data by use of a questionnaire interview guide and observation schedule at the same time and with equal weight (Creswell, 2012). This design involves the simultaneous but different gathering and analyzing of both quantitative and qualitative data to enable the researcher in understanding the research problem. Then researcher combined the three data sets by bringing the distinct results together in the interpretation during the analysis. Quantitative data were derived from questionnaires and pupils reading test whereas Qualitative data was derived from interviews with head teachers and observation.

This study targeted all the Grade III pupils, their grade teachers and head teachers of all primary schools in Kenyenya Sub-County. Grade III pupils were targeted in this study since by the end of Grade II, the pupil are expected to have gained the basic reading and writing skills. There was a total of 77schools in Kenyeya Sub-County with 77 head teachers, 77 Grade III teachers and 3080 Grade III pupils. Purposive and stratified random sampling techniques were employed in choosing a 30% sample that took part in the study. Data was analyzed both qualitatively and qualitatively. Qualitative data was analyzed according to the themes in connection to the study objectives while quantitative data were analyzed descriptively and inferenced using ANOVA Test Analysis.

#### 4. RESULTS AND DISCUSSIONS

In this section, the data analysis, presentation and interpretation are reported. This study sought to answer the following questions:

- What are the reading levels of Grade III pupils in primary schools in Kenyenya Sub-County?
- What is the influence of class size on teaching reading skills amongst Grade III pupils Kenyenya Sub-County?

#### i. Reading Skills amongst Grade III Pupils

The study sought to establish the extent to which Grade III pupils in public primary schools manifest reading skills such as decoding, dictation, fluency and comprehension. Data was collected from Grade III teachers and results are indicated in Figure 1:

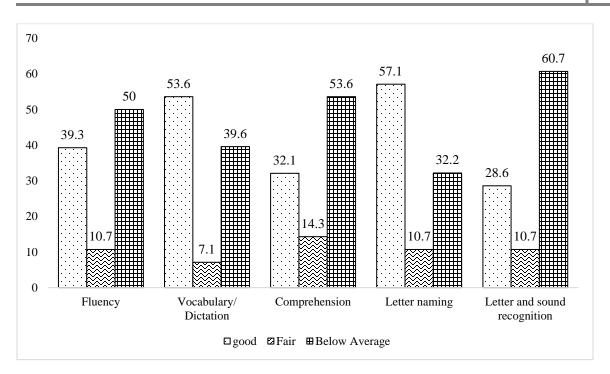


Figure 1: Grade III Teachers Ratings of Reading Skills amongst Grade III Pupils

Figure 1. Shows that more than (57.0%) of the Grade III teachers admitted that most of the grade III pupils were good in reading the letters of the alphabet, 10.7% said that their pupils were fairly good whereas (32.3%) said that their pupils were below average. Similar assertions were also made by the head teachers during the interviews. One of the head teachers noted, "Most of grade III pupils in my school read letters of the alphabet fluently". On the same vein, a paltry 28.6% of the sampled Grade III teachers indicated that their Grade III pupils had fluent letter and sound recognition skills. 10.7% of the teachers indicated fair whereas the majority (60.7%) admitted that their Grade III pupils have fluent letter and sound recognition skills which are below average.

Likewise, the researcher also witnessed that most of grade III pupils were fluent readers; however, they struggled reading and differentiating *letters and sounds*. This was proven by a sample test administered to the pupils whereby many of them were able to read the letters (a, b, c, d etc,), but could not differentiate the letters names and their sounds (/a/, /b/, /c/, /e/ etc.).

These findings confirmed the declarations of Wolf (2016), Monzalvo and Dehaene-Lambertz, (2013) and Leipzig (2001) that when pupils have not developed the alphabetic principle due to poorphonological awareness, they subsequently have difficulties reading fluently and comprehending a written text. These outcomes uphold the fact that the ability to identify letters and their sounds is a basic skill in acquiring reading skills. Early acquisition of phonological awareness lays a good foundation for the acquisition of reading skills and a good indicator of achieving later literacy. Furthermore, in acquiring reading skills, knowledge of phonological structure is the central enabling condition of reading in an alphabetical writing system.

The results in Figure 1. Also shows that slightly more than half (53.6%) of the teachers indicated that Grade III pupils in public primary schools had competence in vocabulary skills, 7.1% said that their pupils were fairly good whereas (39.6%) of the teachers indicated that their Grade III pupils' vocabulary skills were below average. During the interviews, head teachers also alluded to the view that most of Grade III pupils in their schools were better in dictation, though not good in comprehending vocabularies. On the same note, the sample test administered by the researcher also confirmed the same. the researcher found out that most of the Grade III Pupils were able to write the words fast, but could not spell the words correctly while some were not able to write the words at all.

These outcomes were in agreement with the findings of Hanson and Padua (2014) that vocabulary plays a crucial role in reading process and that, in reading, vocabulary knowledge is essential in comprehending passages. These outcomes also give credibility to the standpoints apprehended by The NICHD (2000) and NRP (2000) that knowing

the meaning of words helps in comprehending written texts. These results support the fact that vocabulary is essential for pupils' acquisition of reading skills. Therefore, Grade III children with less vocabularies require timely intercession to assist them develop good reading skills.

A fair proportion (39.3%) of the Grade III teachers indicated that their Grade III pupils were fluent readers, 10.7% indicated that their pupils were are fair while Have (50%) indicated that their Grade III pupils' could not read fluently. Similar views were expressed by the head teachers who indicated that the majority of the pupils in Grade III were not fluent reads. One interviewee noted,

The researcher also administered a sample test and noted that most of the Grade III pupils in public primary schools manifest lots of difficulty in reading fluently. The researcher also observed that the majority had problems with their fluent pronunciation of words. It was further observed that some Grade III pupils read words faster without spending so much time figuring out the words, had a high degree of difficulties with phonics patterns and activities and stumbled a lot and lost their places when reading aloud.

These findings corroborate the assertions of Dahl (2004) and Samuels (2005) that fluency is usually measured through oral readings, although good readers also demonstrate this skill when reading silently. Fluency develops from reading practice. These findings affirm the fact that skills such as letter-sound, letter combinations and the making of sense and association of words need to be acquired first before the reader can read more complicated comprehension skills.

Out of the sampled teachers, 32.1%, indicted their pupils had acquired good comprehension skills, 14.3% reported that their pupils were fairly good while (53.6%) acknowledged that comprehension skills among their grade III pupils were below average. Head teachers also retorted in approval of the view that grade III pupils in their schools had dismal comprehension skills. This was evidenced from a sample test for Grade III administered by the researcher. The researcher observed that quite a number of Grade III pupils were not able to answer comprehension questions well; some took a lot of time answering comprehension questions while others could not even attempt to answer the questions. These findings were consistent with the findings of a study conducted by Kim, Petscher and Foorman (2015) which examined the variance in reading comprehension scores that existed between learners, classes, schools and districts for children in grades 3-10. The study found out that.....

Reading is the construction of meaning from a written passage that involves word recognition, vocabulary, fluency and comprehension. These results assert that most Grade III pupils lack the ability to read which is a major determiner of pupils' academic success or failure. Early acquisition of reading skills lays a firm foundation for future success in reading and other subjects which are linked to later school achievement. In other words, successful acquisition of reading skills during the lower primary levels is a good indicator of later literacy achievement, the skill which most Grade III pupils in public primary schools in Kenyenya Sub-County lack.

#### ii. Class size and Acquisition of Reading Skills amongst grade III Pupils

The study sought to establish how class size influences acquisition of reading skills among grade III pupils. This was measured in terms of the number of pupils handled by one teacher per class. First, the study sought to establish the number of pupils enrolled in grade III. The Grade III teachers were asked to give the number of pupils enrolled in their classes. Data collected on the number of Grade III pupils as shown in figure 1;

Table 1: Number of pupils enrolled in Grade III

Teacher/Pupil Ratio	upil Ratio Respondents	
	F	%
Between 21-30	2	8.7
Between 31-40	3	13.0
Between 41-50	4	17.4
Between 51-60	7	30.4
Between 61-70	4	17.4
Over 70	3	13.0
Total	23	100.0

Table 1: pointed out that 2 of the schools had a pupil population of between 21-30, 3 schools had between 31-40, 4 schools had 41-50, 7 schools had between 51-60, 4 schools recorded between 61-70 whereas 3 schools had over 70 pupils. The Head teachers at the same time also acknowledged high enrolments in their lower classes. One the head teacher reported that, "I have 90 pupils in grade III". The researcher also observed that in most schools, the grades III pupils were over the recommended class size of 40 pupils in Kenya and the classes were too congested that even the class teacher could hardly find a space to sit.

These findings concur with Nizamettin and Bekir, 2015; Arum and La Free, 2008; Krueger, & 2003), that large class size impacts on learners' test scores in the short run as well as their long-run of human capital formation. A good foundation during the lower primary levels forms the base for further academic development. Glass and Smith (1979) indicated that small class sizes during the first four years of schooling forms the basis for future academic success as the pupil progresses to secondary education. These findings confirm the fact that class size is an important school factor that has an influence on learners' academic achievement outcomes.

### iii. Teachers' Views on the impact of class size on Acquisition of Reading Skills among Grade III Pupils

The Grade III Teachers were asked to give their views on how class size influences acquisition of reading skills amongst Grade III pupil. Data was collected from grade III teachers and the results are shown in Table 2: Table 2: Grade III Teachers' Views on the Influence of Class size on Acquisition of Reading Skills among Grade III Pupils

Table 4.14: Class III Teachers' Views on the Influence of Teacher/Pupil Ratio on Acquisition of Reading Skills amongst Class III Pupils

Summary of Test Items	SA	Α	U	D	SD
	%	%	%	%	%
Class size influences pupils acquisition of reading skills	78.0	11.0	2.5	5.5	3.0
With smaller class sizes, the environment is better in the class, learners may receive more individualized attention and teachers can employ a variety of	69.5	25.5	1.5	2.0	1.5

teaching method and activities.							
A school in which the teacher/pupil ratio is low shows the best acquisition of reading skills	74.5	19.5	1.5	3.2	1.3		
Big class sizes impact negatively on pupils' acquisition of reading skills	67.5	23.5	2.0	4.0	3.0		
Smaller classes in the early grades can boost pupils' achievement in reading test scores	77.5	14.5	1.5	4.0	2.5		
A class size of no more than 18 pupils per teacher is required to produce the greatest benefits	75.0	14.0	3.5	4.5	3.0		
A fewer number of pupils in a class promote high pupils participation	63.5	24.5	2.5	2.0	7.5		
Learners in a smaller class are more responsible and more comfortable participating in class activities	70.5	17.5	3.5	7.0	1.5		

Table 2. shows that most 78.0% of the Grade III teachers strongly agreed that class size is an influences pupils' learning outcomes in reading, 11.0% of the teachers agreed, while 2.5% were undecided. Further, 5.5% of teachers disagreed and 3.0% strongly disagreed. The majority of the head teachers who were interviewed, also retorted that class size is an important aspect determines the pupils' education results.

These findings lend credence to the assertions of Krueger (2003) that Grade size is another important determinant of pupils' academic success. These findings thus point to the fact that large Grade size affects pupils' test scores in the short run as well as their long-run human capital formation.

The study also revealed that a majority (69.5%) of Grade III teachers strongly agreed with the view that when teachers have smaller classes the atmosphere is better in the classroom, pupils can receive more individualized attention and teachers have more flexibility to use institutional approaches and tasks. Twenty-five Percent of the Grade III teachers agreed, 1.5% were undecided, 2.0% disagreed whereas 1.5% of the them strongly disagreed. Head teachers also indicated that smaller and well-conditioned classrooms are appropriate for learners' acquisition of reading skills.

These findings are concurrent with the Schanzenbach (2014) & Krueger (2003) that with smaller classes the atmosphere is better in the classroom, students can receive more individualized attention and teachers have more flexibility to use instructional approaches and tasks. These findings are thus indicative of the fact that small classes might perform well due to many reasons. These may include better teacher-pupil contact and more personal relationships between teachers and pupils.

The study also revealed that the majority (74.5%) of the Grade III teachers strongly agreed with the view that a school in which the class size is low shows the best acquisition of reading skills. On the same breath, 19.5% of the Grade III teachers agreed, 1.5% were undecided, 3.2% whereas 1.3% of them strongly disagreed. In the same vein, the majority (67.5%) of the Grade III teachers strongly agreed with the view that high PTR impact negatively on pupils' acquisition of reading skills. A small proportion of 23.5% of the Grade III teachers agreed. In the same breath, 2.0% were undecided, 4.0% disagreed whereas 3.0% of them strongly disagreed.

The study similarly found out that majority (77.5%) of Grade III teachers strongly agreed with the view that small classes in the early grades can boost pupils' achievement in reading test scores. A small proportion of 14.5% agreed, 1.5% were undecided, 4.0% disagreed whereas 2.5% of them strongly disagreed. Further, the study found out that three-quarters (75.0%) of Grade III teachers strongly agreed with the view that a class size of no more than 18 pupils per teacher is required to produce the greatest benefits. A small proportion of 14.0% agreed. 3.5% were undecided, 4.5% disagreed whereas 3.0% of them strongly disagreed. During interviews, head teachers also expressed similar views. They noted,

"The Pupil/teacher ratio is very important in handling learners. Any class in which the teacher/pupil ratio is low shows the best acquisition of reading skills".

These findings corroborate the findings of a study conducted by the AzimovPremji Foundation (2006) which revealed that a PTR lower than 30:1 had a high connection with the greater school achievement. AzimvPremji Foundation (2006) also found that PTR above 40:1, schools seemed to have less than 2% chance of high performance. In other words, schools with a PTR of between 10 and 20 showed excellent performance.

The study also found out that majority (63.5%) of Grade IIII teachers strongly agreed with the view that a lower pupil-to-teacher ratio can encourage greater participation in reading in the classroom. A small proportion of 24.5% of the Grade III teachers agreed. At the same time, 2.5% of the Grade III teachers were undecided, 2.0% of disagreeing whereas 7.5% them strongly disagreed. The study also found out that majority (70.5%) of the Grade III teachers strongly agreed with the view that pupils in a smaller classes feel more accountable or more comfortable participating in classroom discussions.

A small proportion of 17.5% of the Grade III teachers agreed that an average class size of 18 pupils per teacher is necessary for greater benefits. At the same time, 3.5% of the Grade III teachers were undecided, 7.0% of Grade III teachers disagreed whereas 1.5% of the Grade III teachers strongly disagreed. Head teachers also responded in favor of the view that pupils in a smaller classes feel more accountable or more comfortable participating in grade discussions.

These findings support the findings of a study carried out in the Olkalou Division by Kiumi, Kibe, and Nganga (2013) which revealed that high PTR impacted negatively on pupils' progression through the primary school curriculum and leading to poor performance in KCPE examination. Hence, these findings attest to the fact that class size is an important determinant of pupils' out classroom, students can receive more individualized attention and teachers have more flexibility to use instructional approaches and tasks.

d). Inferential Findings on the Influence of Teacher/Pupil Ratio on Acquisition of Reading Skills amongst Grade III Pupils

To verify the possibility of variance between class size and Grade III pupils' acquisition of reading skills, data was collected on the number of Grade III pupils per teacher and their corresponding performance in reading skills from the sample pupils' test. The results are shown in Table .3:

Table 3: Class Size and Grade III Pupils' Performance in Reading Skills

Class Size	Reading Skills				
	FR (25)	DCT (10)	COMP (5)	LN (25)	MLS (36)
21	23	9	4	25	3
33	20	7	4	25	7
41	15	5	3	24	11
56	11	4	2	22	19
60	9	2	1	20	22
73	4	1	1	14	28

Table 4.15 indicates that public primary schools with smaller enrolments have their Grade III pupils manifesting excellent reading skills. That is, such learners manifest fluent reading of letters, perform well in dictation, comprehension, letter naming and register few cases of mixing of letters and sounds. These results further lend credence to the findings of Krueger (2003) that, with smaller classes the atmosphere is better in the classroom, learners receive more individualized attention and teachers have more flexibility to use instructional approaches and tasks.

These data further lend credence to the findings of the AzimvPremji Foundation (2006) also found that PTR above 40:1, schools seemed to have less than 2% chance of high performance. In other words, schools with a PTR of between 10 and 20 showed excellent performance. This means that small classes perform well in reading skills. These results were subjected to ANOVA to analyze such variance and the results are shown in Table 4.4:

Table 5: ANOVA Analysis of the Difference between the Means of the Teacher/Pupil Ratio and Grade III Pupils' Performance in Reading Skills

		Sum Squares	ofDf	Mean Square F		Sig
Teacher/Pupil Ratio		30.472	5	6.094		
Fluent Reading	Dictation Comprehension I Naming	7908.139 _etter	5	1581.628	14.885	.000
	Mixing Letters Sounds	and2656.361	25	106.254		
	Total	10564.500	30	352.150		
Total		10594.972	35	302.713		

Grand Mean = 17.47

From the ANOVA Statistics in Table 5, the processed data, which is the population parameters, had a significance level of 0.000 which shows that the data is ideal for making a conclusion on the population's parameter as the value of significance (p-value of 0.000) is less than 5%, that is, p-value=0.000<0.05. Hence, the Null Hypothesis,  $H_{03}$ : There is no significant influence of class size on acquisition of reading skills amongst Grade III pupils, was rejected. It also indicates that the results were statistically significant and that there is a significant difference between class size and Grade III pupils' acquisition of reading skills.

These results were consistent with the findings of a study conducted by Krueger (2003) which generated a p-value of 0.013<0.05. These findings further affirm the fact that, with smaller classes the atmosphere is better in the classroom, Grade III pupils can receive more individualized attention and teachers have more flexibility to use instructional approaches and tasks. This further points to the fact that schools with a small PTR manifest excellent reading skills. In other words, small classes perform well in reading skills.

#### 5. SUMMARY OF FINDINGS

The study established that class size in most public primary schools was high. The study also established that most Grade III sizes in primary schools are quite large with well over 40 pupils of the recommended size in Kenya. This is indicative of the fact that class size is another important determinant of pupils' outcomes and the effects of class size on achievement are most likely to occur if class size is linked to instruction. Large class size affects pupils' test scores in the short run as well as their long-run human capital formation. When teachers have smaller classes, the atmosphere is better in the class, pupils can receive more individualized attention and teachers have more flexibility to use institutional approaches and tasks.

These findings thus affirm the fact that class size is very important in handling learners that schools with a PTR of between 10 and 20 showed excellent performance. It is thus evident that class size is an important determinant of pupils' outcomes.

#### 6. CONCLUSIONS

The study established that teacher-pupil ratio in most public primary schools is very high. It is often assumed that class sizes need to fall below a certain number (the number of 20 in a class is often cited) before they can have an impact on educational outcomes. There was not a clear and consistent picture regarding the size of classes below or above whose effects were most evident. Considering 20 as an ideal class size, most of the schools selected and used in this study had a very high-class size from which reading achievement was hard to achieve. This study showed that smaller classes can benefit all pupils in terms of individual, active attention from teachers. This suggests that small classes can be a valuable educational initiative right through school or else the evidence is that they will be more prone to go off task and teacher's will have to use up more time bringing them back on task. Small classes allow teachers to engage in more individualized teaching, and can be used as part of more differentiation of the curriculum.

It is noted that there is need to be aware of how pupils in large classes can drift off task through too much teacher to whole class talk, and how it is the low achievers who seem most affected. However, there is no guarantee that smaller classes will automatically lead to more productive work in groups.

#### **REFERENCES**

- Arum R., LaFree, G. (2008). Educational attainment, teacher student ratios, and the risk of adult incarceration among U.S. birth cohorts since 1910. *Sociol. Educ, 81*(4), 397–421.
- Azim Premji Foundation. (2006). The criticality of pupil teacher ratio: Empirical evidence from 766 lower primary schools of North East Karnataka. Issues in elementary education. New Dheli, India: Sage Publishers.
- Barr, R., & Dreeben, R. (2002). How schools work. Chicago: University of Chicago Press.
- Blatchford, P., Bassett, P., & Brown, P. (2011). Examining the effect of class size on classroom engagement and teacher–pupil interaction: Differences in relation to pupil prior attainment and primary vs. secondary schools. *Learning and Instruction*, 21(6), 715-730.
- Blatchford, Moriarty, Edmonds and Martin, (2002)
- Calderon, M., Slavin, R., & Sanchez M. (2011). Effective instruction for English learners. *The Future of Children*, 21(1), 103-127.
- Chetty, R., Friedman, J.N., &Rockoff J. (2013). Measuring the impacts of teachers II: Teacher value-added and student outcomes in adulthood (Working Paper No. 19424). Cambridge, MA: National Bureau of Economic Research.
- Creswell, J. W. (2012). Research design: qualitative, quantitative and mixed methods approach. Thousand Oaks, California: Sage Publications.
- Dahl, P. (2004). An experimental program for teaching high speed word recognition and comprehension skills. Washington, DC: National Institute of Education.
- Ehri, L. C. (2013). Grapheme—Phonerne Knowledge Is Essential for Learning to Read Words in English. *Word recognition in beginning literacy*, 1.
- Fredriksson, P., Öckert, B., &Oosterbeek, H. (2013). Long-term effects of class size. The Quarterly Journal of Economics, 128(1), 249-285;
- Glass, G.V., & Smith, M.L. (1979). Meta-analysis of research on class size and achievement. Educational Evaluation and Policy Analysis, 1(1), 2-16.
- Hanson, S., & Padua, J. F. (2014). *Effective instructional strategies series: Teaching vocabulary explicitly*. Retrieved from <a href="http://prel.org/wp-content/uploads/2014/06/vocabulary\_lo\_res.pdf">http://prel.org/wp-content/uploads/2014/06/vocabulary\_lo\_res.pdf</a>
- Kiumi, J. K., Kibe, S. M., & Nganga, S. W. (2013). Influence of pupil-teacher ratio and school location on pupils' performance in exit examination in Kenya's free primary education program. *International Journal of Economy, Management and Social Sciences*, *2*(6), 122-128
- Kim, Y. S., Petscher, Y., &Foorman, B. (2015). The unique relation of silent reading fluency to end-of-year reading comprehension: understanding individual differences at the student, classroom, school, and district levels. *Reading and Writing*, 28(1), 131-150.
- Krueger, A. B. (2003). Economic considerations and class size. The Economic Journal, 113(485), 34-63.
- Leipzig, H. (2001). What is reading? Retrieved from <a href="http://www.readingrockets.org/article/352">http://www.readingrockets.org/article/352</a>

- Lewin, K. (1943). Psychology and the process of group living. In M. Gold (Ed.), The complete social scientist: a Kurt Lewin reader (pp. 330-345). Washington, DC: American Psychological Association.
- Lonigan, C. J., Allan, N. P., & Lerner, M. D. (2011). Assessment of preschool early literacy skills: Linking children's educational needs with empirically supported instructional activities. *Psychology in the Schools*, *48*(5), 488-501.
- Majanga, E. K., Nasongo, J. W., Sylvia, V. K. (2011). The effect of class size on classroom interaction during mathematics discourse in the wake of free primary education: A study of public primary schools in Nakuru municipality. Current Research Journal of Social Science, 3, 44-49.
- Monzalvo and Dehaene-Lambertz, (2013)
- National Institute of Child Health and Human Development. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH). Washington, DC: U.S. Government Printing Office.
- National Reading Panel. (2009). Teaching children to read. An evidenced –based assessment of scientific research literature on reading and its implications for reading instructions. Retrieved, 20009.
- Nizamettin, K. andBekir, C. (2015)theimpact of number of students per teacher on student achievement. DOI: 10.1016/j.sbspro.2015.02.335
- Ouko, H. O. (2015). Determinants of standard one pupils' achievement in literacy and numeracy in Gucha District, Kisii County Kenya. Kenyatta University: Unpublished doctoral thesis. <a href="http://ir-library.ku.ac.ke/handle/123456789/13328">http://ir-library.ku.ac.ke/handle/123456789/13328</a>
- Samuels, S. J. (2005). Automaticity and repeated reading. Lexington, MA: Lexington Books.
- Sekran, U. (2007). Research methods for business: A skill building approach (4thed.). New Delhi, India: Wiley Publishers.
- Schanzenbach, D.W. (2014). Does Class Size Matter? Boulder, CO: National Education Policy Center. Retrieved [date] from http://nepc.colorado.edu/publication/ does-class-size-matter.
- Uwezo Kenya. (2014).
- Wolf, G. M. (2016). Letter-sound reading: Teaching preschool children print-to-sound processing. *Early childhood education journal*, *44*(1),
- Yusuf, T. A. Onifade C. A and Bello O.S (2016). Impact of Class Size on Learning, Behavioral and General Attitudes of Students in Secondary Schools in Abeokuta, Ogun State Nigeria. Journal of Research Initiatives, 2(1).2-16.