

Class Size And
Learning Outcomes:
Perceptions Of
In-Service Teachers

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ABSTRACT

Achieving quality learning outcomes within the education system in Kenya remains an elusive goal for educationists. Many strategic plans have been drafted and action plans implemented, but the aspiration remains a mirage. It appears the policy makers require more input from the stakeholders. The purpose of this study was to find out the perceptions of in-service teachers on class size and learner achievement. Fifteen in-service teachers attending the April 2015 school-based session at Mount Kenya University, Nairobi Campus were randomly selected and requested to participate in a Focus Group Discussion (FGD) organized by the researchers. The FGD revealed that class size in isolation cannot have an impact on learners' achievement. It should be complemented by quality teacher preparation, more individualization, provision of resources and improving the quality of interaction in the classroom. The study recommended hiring of more Early Childhood Education Teachers to reduce class sizes and therefore improve learning outcomes.

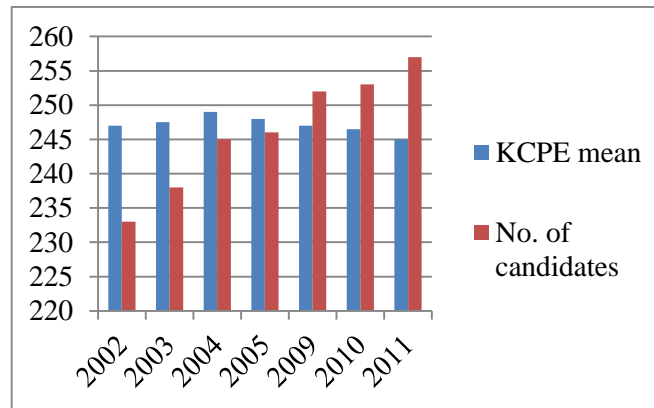
Key words: Class size, Education, Learning outcomes, In-service teachers

1. INTRODUCTION

In the education sector, questions surrounding the products and the system itself are worthwhile since the products and the system should be objectively evaluated to justify the inputs (Nabwire, Marcella & Musamas, 2014). In line with this, much debate over schooling in Kenya is essentially about how to maximize the amount of student learning, typically as measured by standardized achievement tests (Ehrenberg, Brewer, Gamoran & Willms, 2001). This is because in Kenya, examinations are acceptable as valid measures of achievement. However, students continue to perform dismally in these examinations year after year.

In a bid to improve the quality of the output, that is learning achievement, the Kenyan Government continues to increase expenditure on education. For example in the year 2010, the government increased its expenditure on education by 17% (GoK, 2010). It has concentrated on provision of resources, improving teacher quality, administration and supervision of teachers and integration of ICT into the teaching learning process with little success. However, despite these massive efforts, performance continues to be generally poor as reflected in the Kenya Certificate of Primary Education (KCPE) scores shown in figure 1.

Figure 1: KCPE performance for selected years



Source: Oketch and Mutisya (2013)

Access to primary schools has improved rapidly throughout the developing world since 1990, but learning outcomes have lagged behind (World Bank, 2006). In Kenya, several studies on education have been done (Odhiambo, 2008). Most of these studies have just mentioned the factors affecting performance of learners. These factors include; the quality of resources, teacher quality, administration and supervision of teachers and integration of ICT into the teaching learning process. However, studies have failed to address the crucial issue of class size in relation to learning outcomes. Glass and Smith (1978) analyzed 80 separate studies and concluded that there was a substantial relationship between class size and achievement.

Contradicting results have been reached on the effects of class size on student outcomes. Whereas some studies conclude that small classes do not improve student achievement (Wößmann and West, 2006), other researchers find evidence of a positive impact (Krueger and Whitmore, 2001). Reducing class size to increase student achievement is an approach that has been tried, debated, and analysed for many decades. The premise seems logical: with fewer students to teach, teachers should achieve better academic outcomes for all students. In spite of this protracted debate, there is little evidence to suggest that learners taught in smaller classes do better in academics than pupils in larger classes especially in Africa and Kenya in particular.

Research conducted by Galton and Hargreaves (1996) revealed that smaller classes provide teachers with the opportunity to devote more time to each student with regards to talking about the tasks and giving feedback on work. Munoz and Portes (2002) reported that extensive research had been conducted on class size and they found that increased class size can decrease opportunity for individualized instruction. The more students a teacher is responsible for, the less time they can devote to each child. However there are no studies showing the changes when there are fewer children in a class. Studies do not carefully isolate the causal effect of class size. What is true is that class size inevitably influences teaching styles (Capel, Leask, & Turner, 1995) and this may influence learners' achievements. Class size is considered one of the most important factors in

teaching and learning process (Gakure, Mukuria & Kithae, 2013). This clearly indicates that the effects associated with class size should be seriously taken into consideration by educators and policy makers.

According to Gakure, Mukuria & Kithae (2013), the number of students in a class has the potential to affect how much is learned in a number of different ways. For example, it could affect the level of social engagement which may lead to more or less noisy and disruptive behavior, which in turn may affect the kinds of activities the teacher is able to promote. It could also affect how much time the teacher is able to focus on individual students and their specific needs rather than on the group as a whole.

Generally, research studies show that students in smaller classes perform better on all assessments when compared to their counter parts in larger classes (Bruhwiler & Blatchford, 2011; Chingos, 2013). It is worth noting, however, that some studies analyze student assessment results in terms of individual student performance and others in terms of class-wide aggregated performance, which can obscure the differences in individual students' performances. Beside, some studies show that the benefits are not consistent across all levels. Small classes make the biggest difference for early elementary school students, while for many high school students smaller classes do not make a significant difference in academic achievements. These positive effects of small class sizes are strongest for elementary school students and less in upper classes (Bruhwiler & Blatchford, 2011; Chingos, 2013). Is this the case in Kenyan schools? The debate about the optimal class size in Kenyan schools has existed at least as long as there has been a system of free and universal education and there appears to be no agreement in sight. These disagreements are what have made it so problematic to determine the fact about the class size effect. Therefore the finding of research should guide policy decisions with respect to class size.

1.2 PROBLEM STATEMENT

Class size is an important factor in student learning. More research is needed to determine how it interacts with phenomena such as learning outcomes. According to a 2007 survey conducted by the American Federation of Teachers, parents considered class size second in importance only to school safety (Dillon, 2011) in relation to student performance. Although earlier research provides convincing evidence in favor of a class size effects, another stream of recent evidence based on natural experiments (Leuven, Oosterbeek and Ronning, 2008) finds that smaller classes do not help at improving student performance in standardized examinations. With this kind of an impasse, the researchers felt the need to have an input from the practitioners themselves.

1.3 RESEARCH QUESTIONS

School administrators, teachers, and parents have long thought that the number of children in a classroom affects the learning that occurs; however, it has proven difficult to pin down the precise effects of class size

on student achievement. The research therefore sought to uncover some of these effects and was guided by the following questions:

According to practicing teachers:

- Do students experiencing smaller class sizes learn more, as measured by student achievement tests, than otherwise similar students?
- Do class sizes have to be below a certain number for a large impact to occur?
- Does the impact of class size vary across class levels (e.g., Lower primary vs. upper primary) and subjects being taught?
- What is done differently in small as opposed to large classes?

2. METHODOLOGY AND PARTICIPANTS

This study adopted a Qualitative approach which is concerned with meaning and not making generalized hypothesis statements. On respondents, Guest, Bunce, and Johnson (2006) propose that saturation often occurs between twelve and fifteen for a particular group. The participants in this study were fifteen in-service teachers attending the April 2015 school-based session at Mount Kenya University, Nairobi Campus who were randomly selected to join a focus group discussion organized by the researchers. This number was enough to ensure saturation. The participants hailed from different parts of Kenya and therefore came in with different personal experiences. The researchers hoped to tap into these experiences to inform their study.

3. FINDINGS AND DISCUSSION

The first objective was to find out whether students experiencing smaller class sizes learn more than similar students in larger classes. The study revealed that teachers gave extra work when handling smaller classes resulting to more time and quantity of learning. One teacher specifically said **“when I have smaller classes, I plan more for each of the learners”** and another added **“I finish the syllabus earlier when I have a smaller class”**. This supported Bain and Achilles (1986) report that teachers of smaller classes reported themselves more productive and efficient than when they taught larger classes.

The second objective was to investigate the relationship between class size and student achievement, specifically whether class sizes have to be below a certain number for a large impact to occur. Glass and Smith (1978) had conducted a comprehensive meta-analysis of CSR studies and found that when classes are comprised of twenty or fewer students, achievement scores increase. But most of the respondents suggested class size of between 20 and 30 for effective learning achievement. The conclusions were that the actual class size does not matter provided it is below 30. In such settings, the teachers were able to give more work, concentrate more on individual problems and address each learner at an individualized level. The resources

available would also be more effectively utilized in smaller classes resulting in higher achievement. These results contradict Mosteller (1995) who had suggested that a class size of 15 or fewer would be needed to make a noticeable improvement in classroom performance. The difference could be attributed to different levels of development between the countries, since Mosteller was writing about conditions within a developed country, the United States of America (USA).

The third objective was to assess the impact of class size across class levels (e.g., Lower primary vs. upper primary) and subjects being taught. The teachers were in agreement that lower levels of learning would have the greatest impact since this is the time when children were at their most inquisitive stage. Once the foundation is laid, the benefits would continue to manifest themselves even at higher levels. One teacher reported that **“If they get a good foundation from down there, they will always perform well”**. Olson (2006; 2011) observes that the basics of learning are instilled into the child at a very young age and how much importance is placed on these basics can have dramatic effects on the future of the child’s learning. Teachers also felt it is easier to achieve more in certain subjects like mathematics and English, especially reading.

The fourth objective was to find out what is done differently in small classes as opposed to large classes. Participants reported:

- Using more individualized approaches
- Having different groups working on different topics at the same time
- Marking students work more regularly and consistently
- Having more interaction with the parents and meeting regularly
- Giving more extra work to students
- Less discipline problems
- Knowing the learners’ better
- More participation from the learners
- More efficient use of facilities
- Varying the teaching methods

4. CONCLUSION AND RECOMMENDATIONS

The findings from this research support reduction of class sizes especially at lower levels of learning. This would improve the quality of interaction and the time given to individual learners and thus lay a firm foundation for future learning. According to Mosteller (1995) the students originally in smaller classes continue to perform better than the students from larger-sized classes as they continue with education. In the light of this, the researchers recommend more ECDE centers and more trained ECE teachers to reduce class sizes and therefore improve learning achievement. Policy makers should carefully weigh the efficacy of

class-size-reduction policy against other potential uses of funds. While lower class size has a demonstrable cost, it may prove the most cost-effective policy after all (Schanzenbach, 2014).

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