

EXECUTIVE SUMMARY

The Kenya National Examinations Council (KNEC) was mandated to undertake monitoring of learner achievement so as to find out how pupils were achieving at various levels of primary education before they sat for the Kenya Certificate of Primary Education (KCPE). The identification of the achievement levels would enable policy makers to put in place measures for enhancing of quality education. The report therefore presents levels of and discrepancies in learning achievement and the significance of this on the process of education.

A survey research design was adopted in this national assessment. Class 3 pupils whose grade marks completion of the lower primary school level, as well as class 3 teachers and the school head teacher were the target population. The sample of schools included in this study was obtained from the Ministry of Education's Educational Management Information System (EMIS) database using the Sample Design Manager (SAMDEM) software. The 328 schools included in this study were drawn from the 156 gazetted districts in Kenya's 8 provinces. In each school, simple random sampling was used to obtain 7,931 pupils (52% boys and 48% girls) from whom data was collected. A total of 513 teachers and 328 head teachers were also sampled and included in the study.

A pupil questionnaire, teacher questionnaire, head teacher questionnaire, school observation schedule, Literacy and Numeracy tests, were used to collect the data. The Literacy and Numeracy tests had been developed by a team of curriculum experts, teachers and research specialists who drew the items from the Class 3 syllabus. A total of 54 Literacy test items and 30 Numeracy test items were developed. A pre-test and piloting of the research instruments was carried out and thereafter the test items were analysed to establish and improve validity, reliability, efficiency, relevance, equity and fairness. After evaluating the Literacy and Numeracy items using psychometric tools based on Rasch procedure, 18 items from the Literacy test and 2 items from the Numeracy test were deleted. Therefore, only a total of 36 Literacy and 28 Numeracy items were subjected to further analysis.

Data collection in each sampled district was carried out by a team of 4 research assistants who were assigned specific sample schools where they carried out the data collection exercise for one week. To capture and manage the data, the Census and Survey processing System (CSPPro) Version 3.3 was used. The data from CSPPro was thereafter transferred to the Statistical Package for Social Sciences (SPSS) Version 12 for data cleaning, analysis and tabulation. The statistical analysis produced results in terms of frequencies, cross-tabulations, and group mean scores which were described in the form of tables, bar graphs and pie-charts. In addition, Multi-level Analysis was carried out to determine the relative contribution of school and pupil factors to achievement. In the analysis of pupils' competency levels, the Rasch technique was used as it enables alignment of the ability of pupils with the difficulty levels of test items.

The study established that 12.1% of the pupils were underage (below 8 years old) while a greater proportion (44.1%) was over 10 years old, meaning they were over-age. North Eastern Province had the highest proportion (71.7%) of over-age pupils, followed by Coast Province with 55.4%. Majority (95%) of the pupils had attended preschool, with Eastern Province having the highest pre-school attendance rate of 97.8% while North Eastern Province recorded the lowest at 57.5%. The study also revealed that more than half (59.8%) of the total number of pupils had repeated a class with Nyanza Province having the highest percentage (68.6%) of repeaters while Nairobi Province had the lowest percentage (27.6%). The most frequent reasons given for repeating a class were death of a parent or parents (39.1%) and transfer to another school (14.8%).

Absenteeism from school was reported to be at 70.1%. Pupils from Coast Province led with (78.8%) while those from North Eastern Province (40.9%) had the lowest rate of absenteeism. The most recurrent reasons given for absenteeism included sickness (88.8%), work at home (27.7%) and lack of school fees (16.5%). Not all the pupils reported having regular meals; for example, only 85% of the pupils reported having breakfast while more than 92% had lunch and supper. In addition, 16.1% of the pupils revealed that their breakfast was usually inadequate

while 12.7% and 10.1% reported their lunch and supper respectively was usually inadequate. Furthermore, only 51% of the pupils reported receiving assistance with their homework with mothers (36.4%) providing the most assistance followed by siblings (43.4%) while fathers were reported to provide assistance by only 17.3% of the pupils.

An analysis of the pupils' achievement in the Literacy test revealed girls performed better than boys with a mean score of 303.91 while boys had a mean score of 291.3. The boys however had a slightly higher mean score (296.38) in the Numeracy test compared to the girls (294.84). Except for the girls' mean Literacy scores, all these mean scores were below the standardised mean of 300. Nairobi and Central were the leading provinces in Literacy achievement with mean scores of 412.13 and 328.62 respectively, while North Eastern and Eastern had the lowest mean scores at 277.76 and 276.45 respectively. Nairobi (338.28) and Central (313.81) also led in the Numeracy test while Eastern (284.72) and Western (271.78) provinces had the lowest mean scores. Urban and private schools also performed better than rural and public schools in both the Literacy and Numeracy tests.

Rasch analysis was also used to plot the test items in order to define 4 competency levels for Literacy and Numeracy. Further analysis revealed that about half of the pupils (47.7%) attained the desirable levels 3 and 4 of competency in Literacy and more than half of the pupils (51.7%) attained the desirable levels 3 and 4 of competency in the Numeracy test. In addition, more girls than boys attained competency levels 3 and 4 in the Literacy test.

Multilevel analysis established that pupil sex, grade repetition, number of siblings, housework given and pupil socio-economic status influenced Literacy achievement. In addition, all these variables apart from pupil socio-economic status also had a significant influence on achievement in Numeracy. At the school level, class size, pupils' behavioural problems, type of school, mean home possessions, gender make-up of school and North Eastern Province had an influence on achievement in Numeracy. Moreover, all these variables except class size also had significant influence on achievement in Literacy.

The multilevel analysis established that pupils who had never repeated classes achieved better in both the Numeracy and Literacy tests while pupils who had only a few siblings or no siblings at all were likely to achieve better in numeracy and literacy. In addition, pupils who were rarely given household work were estimated to perform better in both the numeracy and literacy tests. Pupil sex was found to have more influence in North Eastern province with girls in North Eastern province being greatly disadvantaged in both Literacy and Numeracy.

At the school level, the multilevel analysis specifically established that pupils in smaller classes tended to perform better in Numeracy than pupils in large classes. In addition, pupils in schools where there were occurrences of pupils' behaviour problems were less likely to achieve better in both the Literacy and Numeracy tests. Teacher professional training and experience also had an impact on pupil performance, with pupils who were taught Literacy by teachers with higher professional qualifications and those teachers with many years of experience performing better than pupils taught by teachers with lower professional qualifications and fewer years of experience.

Based on the findings, this study recommends that the Government needs to put more effort in sensitising and encouraging parents to enrol their children in school when they attain the age of 6 years rather than wait until they are much older. In addition, the Government needs to conduct more research to determine the factors contributing to the presence of such a large number of over-age pupils. The government also needs enforce policies meant to enhance pre-school attendance in regions where access is low. The Directorate of Quality Assurance is also asked to reduce the number of children being forced to repeat classes. Further support is needed to cushion orphans to minimise the number that may be forced to repeat classes due to the death of their parents.

The finding that household chores was contributing to absenteeism from school by a significant number of children means that the Government should step up efforts to sensitise parents on the importance of school attendance and the need to allocate fewer household chores to their school-going children. In addition, the government could

assuage the problem of pupils having inadequate and irregular meals by increasing or introducing feeding programmes in schools.

The finding that the pupils' mean scores in the Numeracy and Literacy tests were below the standardized mean score except for the girls literacy mean score (303.91) is an indication that the government needs to put in place appropriate interventions to improve pupils' performance.

This study established that about half of the pupils attained the desirable levels 3 and 4 of competency in Literacy, indicating that there is still a large number of children whose performance is below average. Efforts should therefore be directed at ensuring that more pupils attain the desirable levels. In addition, this study found that girls in North Eastern province were greatly outperformed by boys in both the Literacy and Numeracy tests, while boys were greatly outperformed by girls in both tests in Nairobi and Central Provinces. Education policy should focus on minimizing the large gender differences in achievement especially in North Eastern, Nairobi, and Central Provinces. The finding that pupils in smaller classes tended to perform better in Numeracy than pupils in large classes also suggests that the Ministry of Education has to look into ways of reducing class sizes. Additionally, pupils in schools where there were occurrences of pupils' behaviour problems were less likely to achieve better in both the Literacy and Numeracy tests indicating that it is extremely important for the Ministry of Education to find ways of reducing disturbances and behaviour problems in schools.

The study recommends the need for parents to reduce the amount of household chores they give their children, and ensure that these chores do not interfere with their children's academic work. In addition, more parents, especially fathers, need to assist their children with homework. The finding that pupils who had only a few siblings were likely to achieve better in Numeracy and Literacy suggests that academic support should be provided to every child.

This study also recommends that teachers need to upgrade their professional training as this may be one approach to improve pupils' learning achievement. There is need for help in the creation of structures and institutional arrangements that support and enhance the role of teachers as life-long learners. Teachers should also be sensitive to differentiated instruction of pupils with Special Education Needs, whether in special schools or in inclusive settings. They should also observe proper time management and effective planning for teaching and learning. This will ensure effective coverage of the syllabus.

The majority of teachers involved in this study were between the ages of 31 to 40 years (33.1%) and 41 to 50 years (33.5%). There were more male (64.4%) than female (35.6%) teachers in the sample. Most of the teachers (81.1%) had attained form 4 level of education, and only 1.7% were primary school leavers. Over 67% of the teachers had over 10 years teaching experience; however, Eastern and North Eastern Provinces had the highest number of teachers with a teaching experience of less than one year (6.7% and 10.1% respectively). Notably, the majority of teachers teaching Mathematics (72.2%) and English (73.5%) at the national level had a teaching experience of below 5 years while 8.6% of the teachers indicated that they did not have any experience in teaching Mathematics. Nyanza Province had the highest number of pupils with special needs (69.2%) and also the highest percentage of teachers (30.5%) who were not trained to teach them.

Almost three quarters of the teachers reported that they were involved in remedial teaching with Western Province reporting the highest percentage (87.1%) while Nairobi had the least (34.6%). The teachers also indicated that syllabus completion was affected by among other issues, inadequate teachers (49%), frequent absenteeism by teachers (33.2%) and time-wastage (36.9%). Regarding disciplinary problems, between 90 to 100% of the teachers responded affirmatively that indiscipline existed in their schools, with making noise in the classroom (57.5%), failure to do homework (48.8%) and truancy (48.5%) being the most common problems. Some teaching and learning materials were reported as being inadequate with desks (45.4%), geometric sets (48%) and rulers (47.2%) being the materials that were mentioned most frequently. Most of the teachers also reported a high book to pupil ratio of 1:3 in Mathematics (50.3%) and 1:3 in English (50.8%). A number of the teachers (38%) indicated they walked a distance of over 5 kilometres to access a resource centre while some (6%) indicated that

the resource centres did not exist in their zones.

Since the study established that a majority of the teachers will retire in less than 20 years, the government should consider reverting to the policy of absorbing all trained teachers so as to ensure a smooth transition in the coming years. Encouraging more teacher trainees to enrol for Mathematics and English courses, and providing refresher or in-service courses for older teachers are other strategies that would improve quality in schools. Improved facilities and recruitment of trained teachers who are prepared to handle pupils with special needs would also go a long way in improving learning outcomes in schools.

The Directorate of Quality Assurance to enhance its monitoring on curriculum implementation and take appropriate measures so as to minimise remedial teaching in schools. Major causes of disciplinary problems in schools should also be established through more research. Stakeholders should be involved in implementing any policies that are developed. The general teacher shortfall and the low availability of teachers trained in Special Needs, which hints at the possibility of pupils not receiving individualized attention means that the government needs to continue in its efforts to employ adequate numbers of teachers.

The Teachers Service Commission (TSC) should make deliberate measures to ensure that both boys and girls get role models by appointing female head teachers in marginal areas and posting male teachers in urban areas where they are under-represented. This will help improve participation of girls in education especially in North Eastern Province, and that of boys in urban areas. Further, more teachers should be encouraged to acquire relevant further education and training and be retained at the primary school level.

Over three quarters of the sampled head teachers (85.4%) were male while female head teachers were the minority (14.6%). No female headteachers were sampled from North Eastern Province. In addition, more than half (53.7%) of the headteachers were aged between 41 to 50 years and only a few schools (2.1%) had headteachers below 30 years of age. Most of the head teachers reported that they had benefited from in-service training in school administration (59.1%) as well as management of school resources (60.2%).

Over half of the head teachers in Nairobi schools reported high job satisfaction (62.5%), while head teachers in Coast Province reported the highest levels of lack of satisfaction at (18.5%). In addition, all the head teachers except those in Nairobi Province reported a teacher shortfall in their schools. They also reported low availability of teachers trained in Special Needs Education. Nairobi Province was the only province recording high availability of these teachers at 75%.

This study also recommends that head teachers, on return from workshops and seminars, should brief their staff on what was learnt. Headteachers should also enforce the Government ban on class repetition, as it was found to have a negative impact on the pupils' learning achievement. This study also found that most teachers had 5 years or less experience in teaching Mathematics and English. In addition, the data showed that pupils taught by teachers with many years of experience performed better than pupils taught by newly employed teachers. Head teachers need to ensure experienced teachers mentor younger colleagues.

TSC needs to appoint more qualified young teachers to serve as head teachers. In line with the Government's affirmative policy, should ensure 30 % of all appointments of head teachers is for females. It is also important for the Directorate of Quality Assurance to investigate the reasons behind job dissatisfaction among some head teachers. Further, the strengthening of the School Empowerment Programme should be encouraged, since a significant proportion of head teachers perceived it as highly beneficial.

The high percentage of head teachers (apart from those in Nairobi) reporting a complete lack of electric power and lighting is an indication that the Government and school sponsors needs to ensure the necessary infrastructure is available. Most of the primary schools in North Eastern and Coast Provinces were not fenced contrary to the

Ministry of Education's provisions in the Safety Standards Manual. Finally, the study also recommends that future National Assessments should investigate the impact of head teachers' management styles on pupil performance. Findings from such a study will undoubtedly play a key role in improving learner achievement in primary schools.