Ghana 2013 National Education Assessment

Summary of Results

May 2014 (Final Version)

Ministry of Education
Ghana Education Service
National Education Assessment Unit

Ghana 2013 National Education Assessment

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Abbreviations

ASU	Assessment Services Unit (now renamed National Education Assessment Unit, NEAU)
BECE	Basic Education Certificate Examination
CRDD	Curriculum Research and Development Division
DAT	District Advocacy Team
EdData II	Education Data for Decision Making (USAID project)
EGMA	Early Grade Mathematics Assessment
EGRA	Early Grade Reading Assessment
EMIS	education management information system
GDP	gross domestic product
GER	gross enrolment rate
GES	Ghana Education Service
GH¢	Ghanaian cedi
IEA	International Association for the Evaluation of Educational Achievement
MC35	minimum competency (≥35% correct)
NALAP	National Literacy Acceleration Programme
NEA	National Education Assessment
NER	net enrolment rate
P2, P3, P6	primary grades 2, 3, 6
PCE	per pupil recurrent expenditure
PF55	proficiency (≥55% correct)
PIRLS	Progress in International Reading Literacy Study
RTI	RTI International (trade name of Research Triangle Institute)
TIMSS	Trends in International Mathematics and Science Study
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development

I. Introduction

Content and Purpose of this Report

This report presents the findings from the 2013 administration of the Ghana National Education Assessment (NEA), carried out by the Assessment Services Unit (ASU)[1] of the Ghana Education Service (GES) with the support of RTI International through the USAID Partnership for Education: *Testing* activity.

The NEA is a biennial nationally and regionally representative measure of pupil competency in mathematics and English in primary grades 3 and 6 (P3 and P6). Its measures of pupil performance in these two subjects are intended to give the GES an indicator of the effectiveness of the primary education system; the purpose of the periodic re-administrations is to make it feasible to assess any changes in pupil performance over time. The 2013 NEA was the fifth application of the NEA. It covered all 10 regions of Ghana, sampling 550 public and private schools and testing 36,905 pupils over the course of three days in July 2013.

A part of the *Testing* activity has provided for enhancements to the test content, to improve comparability for detecting any historical trends, and to ensure that individual items within the test are measuring the intended cognitive skills with reliability and an appropriate range of difficulty. With the enhancements, for the first time the 2013 data analysts were able to make meaningful comparisons of pupil outcomes between the current and a previous test. Results from these comparative findings are mentioned below, and lessons learned from 2011 and 2013 in this regard will continue to inform future administrations.

In addition, because the NEA has consistently revealed that children in both grades were struggling to complete the English test and to perform grade-appropriate or even foundational mathematics, in 2013, a few items were added to the test specifically to help assess children's basic reading and maths competency. In parallel, the *Testing* activity also helped carry out a separate Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) of nearly 8,000 pupils, in 12 Ghanaian languages and English, to gain a deeper understanding of pupils' foundational skills in reading and mathematics. A summary of the EGRA/EGMA findings is available in a separate report. Overall, the EGRA and EGMA findings concurred with the NEA findings on the proportion of non-readers and other indicators.

The intent of this summary report is to engender broad-based policy discussions and recommendations around one question: *Why are pupils struggling with English and mathematics in P3 and P6?* It focuses on the 2013 NEA results, which may lead Ghana's education stakeholders towards changes and recommendations in curriculum, materials, other resources, and instructional approaches that could have long-term impacts on pupil performance. For a narrower audience interested in the technical details of the 2013 methodology, sampling, and analysis, a separate, more comprehensive and technical report has been prepared *(Ghana National Education Assessment: 2013 Technical Report);* this report summarises much of the content from the technical document.

[1] Although the ASU was renamed 'National Education Assessment Unit' (NEAU) not long after the test administration in 2013, for chronological clarity, this report retains the name that was in effect when the data collection was under way.

This report of summarised findings is organised as follows. After brief background on Ghana's education sector, Section II describes the structure and format of the NEA and the procedures required for its administration. Section III, the heart of the report, addresses the 2013 outcomes and a few comparative statistics using the 2011 data. Section IV contains the policy and action recommendations that emerged from the National Policy Forum held in Accra in February 2014, as well as a series of District Cluster Forums leading up to it. Note that the forum discussions—which involved nearly 3,000 stakeholders in all—covered the results and implications of the 2013 NEA as well as the 2013 EGRA/EGMA. Finally, for reference, ***Annex A*** contains a few representative sample items from the 2013 NEA.

Background on Ghana's Education Sector

In this section we present some background on the state of Ghana's education system and culture, as context for the NEA from its inception in 2005 through the current administration.

Education Expenditures

In the past decade, education has accounted for 18–27% of public expenditure, or approximately 5–6% of Ghana's gross domestic product (GDP).[2] This proportion grew steadily between 2003 and 2011, and now is above the average for all African countries combined. Total government spending on education tripled from 2003 to 2011 (i.e., from 0.53 million Ghanaian cedi [GH¢] to 1.7 million), a trend also observed in other government spending over this period. Other relevant contextual notes regarding education finance include:

- In 2011, 25.8% of all public expenditure was for education, 34.6% of which was allocated to primary education (grades 1–6) and 49% for the full basic education (kindergarten through junior high school).
- Recent data have shown that salaries and other personnel costs (e.g., travel, allowances) account for over 90% of government expenditures on education.
- In general, for primary schools, teacher deployment and resources flow from a central base. Primary schools have very little budget of their own and essentially no financial autonomy, despite ongoing reforms and decentralisation.

Access, Retention, Quality, and Equity

Like other countries in sub-Saharan Africa and elsewhere, increased enrolment in primary school has introduced substantial supply-side barriers to learning. Examples include shortages of qualified teachers and support services, especially in remote areas; inadequate materials; and difficulties maintaining an effective and modern curriculum leading to acceptable learning outcomes. In addition, in the past 20 years, Ghana has seen population increases of approximately 70%, with most of the growth in the urban regions. The incidence of extreme poverty has been cut in half as a result of economic growth—partially attributable to new oil reserves—but disparities remain.

[2] Darvas, P., & Balwanz, D. (2013). *Basic education beyond Millennium Development Goals in Ghana.* Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/16307.

In Ghana, urban populations are more advantaged than rural ones in terms of access, retention, and learning outcomes; and the differences between deprived[3] and non-deprived districts are particularly stark. Data from 2010 indicated that in rural areas, approximately 60% of 6-year-old children and 45% of 7-year-old children were not in school, while in urban areas, 43% of age 6 and 23% of age 7 children were not in school.[4] Children from rural areas, particularly in the north—which is home to many of the districts designated as deprived—depend heavily on public education. Shortages in the numbers of qualified and experienced teachers, materials shortages, and poor infrastructure characterise public school classrooms in remote and otherwise deprived areas. In spite of increased expenditures in education in the past decade, inequities in education resources across urban/rural and poor/wealthy lines have exacerbated rather than attenuated—resulting in substantially lower performance outcomes for children residing in rural locations, especially in the north.

II. Test Structure and Administration

Test Content and Structure

The NEA tests are based on national curricula and are made up of 30 to 40 multiple-choice questions. For purposes of testing integrity, the questions are presented in two 'forms' (versions), ordered differently on each. New questions are developed and added each year, but the tests retain a few common or 'anchor' items over time.

The domains tested in the 2013 NEA, corresponding to the national curriculum, were:

- English:
  - Listening
  - Reading
  - Grammar
- Mathematics:
  - Numbers and Numerals
  - Basic Operations
  - Measurement
  - Shape and Space
  - Collect and Handle Data

The cognitive abilities covered by the test were distributed among four levels (according to Bloom's Taxonomy):

- Knowledge
- Understanding
- Application
- Reasoning/Critical Thinking

Definitions of these cognitive abilities are provided in tables in Section III.

[3] The formal definition of 'deprived' appears in the discussion of results by core demographic variable, in Section III.
[4] UNICEF (2010), as cited in Darvas & Balwanz (2013); see footnote 2.

Item development in preparation for the 2013 NEA focused on extending the scope of skills tested, including foundational literacy and numeracy as well as higher cognitive abilities such as critical thinking. To allow a more rigorous evaluation of trends over time and possible comparisons with other tests such as the EGRA, EGMA, and international studies, a number of revisions were made to the design of the 2013 NEA and to the set of test items themselves. The test followed international best practices in its design.

The *Testing* team assisted ASU in implementing a number of recommendations that followed the 2011 administration. As a result, the following revisions in tests were made:

- Shortening the number of test items from 40 to 30 for P3 and from 60 to 40 for P6.
- Shortening the duration of the tests[5] from one hour to 40 minutes.
- Assembling two forms[6] for each instrument (instead of four).
- Dropping the writing domain from the English test, as the 2011 multiple-choice items[7] were considered not to be valid measures of pupils' own production.
- Including common items (anchors) to allow linking with 2011 tests.
- Including international items accepted by the International Association for the Evaluation of Educational Achievement (IEA).[8]

For reference, ***Annex A*** presents a few sample items from the forms for each subject and grade.

Test and Item Analyses

After the test items were developed and pilot tested, and again after the full test administration, the instruments were subjected to a number of conventional psychometric analyses. These included: item difficulty analysis; distractor analysis, analysis of reliability, and analysis of outliers or other unexpected responses using item response theory and Rasch methods.

Key psychometric findings included: (1) The 2013 instruments had less measurement redundancy (i.e., fewer numbers of test items, but more diverse content and ability level) for both subjects and grades. (2) Although the mathematics instruments were better aligned with the curricula than in 2011, the maths tests were still quite difficult for the target population, especially in P6. (3) Despite the efforts to reduce the amount of text and written instructions associated with the operations problems, some word problems were necessary to test reasoning in P6 and thus for some pupils, reading presented a barrier to successful performance on these mathematics problems. (4) Test reliability across the 2013 instruments and forms met or exceeded the conventional acceptable value for tests of this nature (Cronbach's alpha $\geq .70$).

More details on the test and item analysis are provided in the Technical Report.

[5] The ratio of test length to duration remained comparable between the 2011 and 2013 tests.
[6] As noted above, the two forms have the same content but differ in terms of item order and order of distractors (incorrect answers) within an item.
[7] Included sentence punctuation, capitalisation, and discourse organisation.
[8] i.e., from the Trends in International Mathematics and Science Study (TIMSS) and Progress in International Reading Literacy Study (PIRLS).

Sampling

The 2013 NEA sample was drawn from a sampling frame based on the 2011–2012 education management information system (EMIS) data, essentially a census of all primary schools. After the statisticians excluded schools that contained a P3 or P6 pupil enrolment less than 10 pupils[9] (*n* = 3,156 schools), 15,609 schools remained in the sample frame. Schools were stratified by region and sorted by district, locality (urban or rural), school type (public or private), and enrolment size. For each region, 55 schools were randomly sampled with equal probability, for a total of 550 schools. All P3 and P6 pupils attending selected schools on the day the NEA was administered (July 9, 2013) were automatically selected to take the test. A total of 19,458 P3 pupils and 17,447 P6 pupils participated in the 2013 NEA administration. More details on the sampling methodology and weighting procedures are provided in the Technical Report.

Although at least one school from each of the 170 districts[10] was randomly sampled, the sample size was insufficient to make appropriate statistical inferences at the district level. In other words, the sample size was selected to analyse data at the national and regional levels, not at the district level.

Training of Test Administrators

The 2013 NEA was implemented by a cadre of test administrators who were first trained by a team of nine Ghanaian master trainers. The master trainers (trained by ASU with support from RTI) led 10 regional trainings at 5 training centres from late May through mid-June. Over 800 test administrators and test monitors participated in the three-day administrator training, which focused on standard administration of the NEA, with ample opportunity for review/discussion of the instruments and administration procedures and practice. The full Technical Report provides additional details about the two training sessions as well as describing how the fieldwork was closely monitored during test administration.

Preparation of Testing Materials

District enrolment figures collected from test administrator training participants were used to create packing allocation (materials) forms to guide the packing of schools-based materials, which included instruments, 'bubble' answer sheets (see ***Figure 1***), and test monitoring forms.

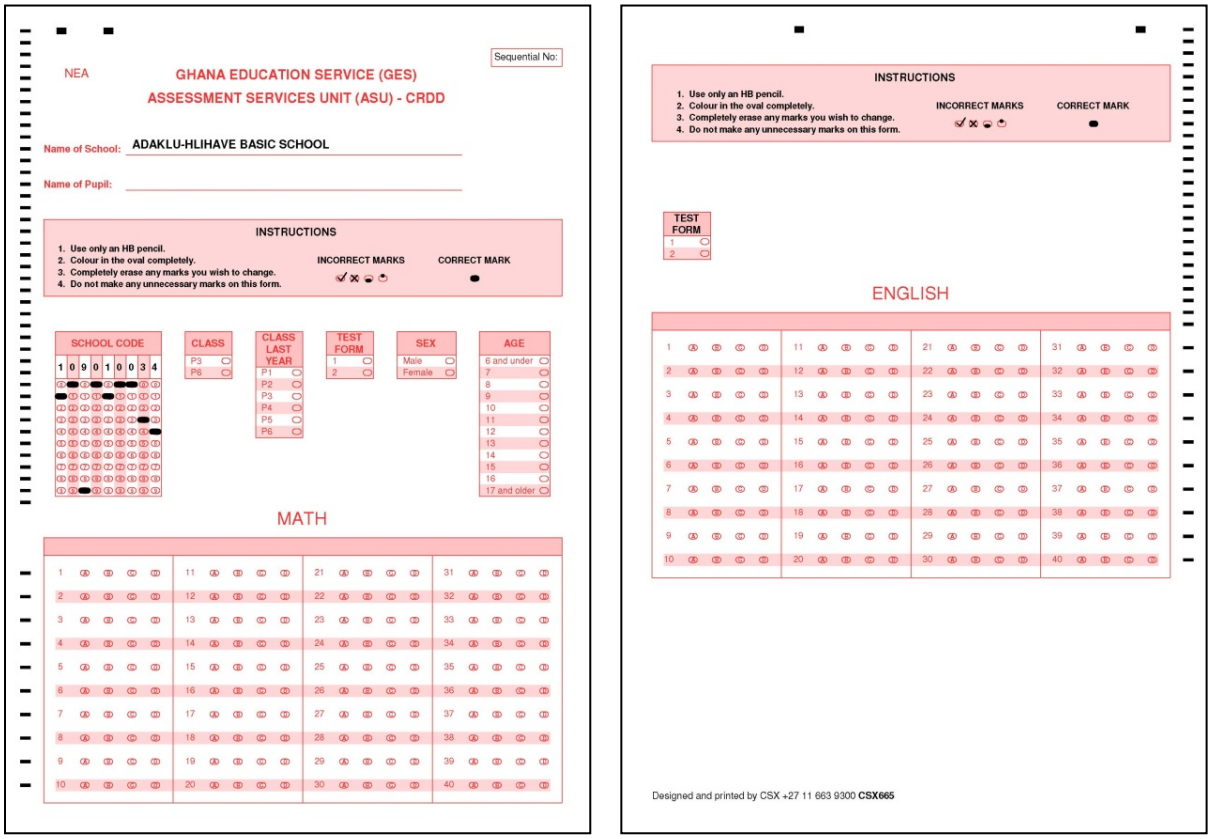
NEA test forms and storage bags

Over the course of 9 days, 14 packers, 3 CRDD staff, 2 ASU staff, and 2 RTI staff packed over 44,000 sets of testing materials and controlled the quality of each school material package. The packaged material was distributed by truck in six days.

[9] Exclusions based on enrolment less than 10 P3 or P6 pupils were implemented in the previous three NEAs (2007, 2009, 2011).

[10] In June 2012, the federal government increased the number of districts from 170 to 216. The EMIS unit has not yet had time to update the current districts within the EMIS data; therefore, we were able to comment only on the 170 districts.

Figure 1: Sample pupil answer sheet ('bubble sheet'), front and back



Data Collection and Management

Data collection for the 2013 NEA took place July 9–11, with administration completed in approximately 60% of the schools on the first day. By July 11, all schools had completed the tests. The test booklets were collected from the Regional Centres July 21–28. The data cleaning and scanning of the answer sheets followed, with the scanning completed by August 9, 2013.

Following data checks for accuracy and completeness, the sample weights[11] were adjusted at the school level (to account for seven incomplete schools) and applied to the achievement test data set. Weights were further adjusted to account for incomplete (non-response) test forms at the pupil level and were then scaled to the pupil population by class using the 2010–2011 EMIS enrolment figures. After verification of each answer key, pupil responses were scored by: subject, class, and test form. Item-level data were documented and the anchor items—items in common with the 2011 test—were verified.

III. 2013 NEA Results

All four tests (i.e., P3 mathematics, P3 English, P6 mathematics, and P6 English) used the same test score cut-points to indicate that a pupil had achieved *minimum competency* (MC35) or *proficiency* (PF55). That is, pupils who scored 35% correct were defined as having

[11] As noted earlier, the full 2013 NEA Technical Report contains more information about the weighting process.

minimum competency in the subject tested and pupils scoring 55% or better were defined as having *proficiency*.

These cut-points for *minimum competency* and *proficiency* have been applied in all previous NEA applications. Thirty-five percent was set as the *minimum competency* because this performance level would indicate that pupils had achieved a score higher than if they had guessed or answered randomly to the questions (i.e., random or guess responses would result in a percent correct score of 25%).[12]

Note that international standards generally classify pupils as 'proficient' if they have answered at least 70% of the questions correctly. The NEA's criterion for *proficiency*, reported here, is based on answering just over half of the items correctly (i.e., ≤ 55%) and thus does not effectively identify pupils who have a full grasp of the curriculum—that is, who are truly proficient in the subject area.

One final note: Although this summary report presents most of the results in terms of simple means or averages, by performance category, Annex F of the full Technical Report also supplies the 95% confidence intervals and standard deviations.

Pupils Reaching Minimum Competency and Proficiency

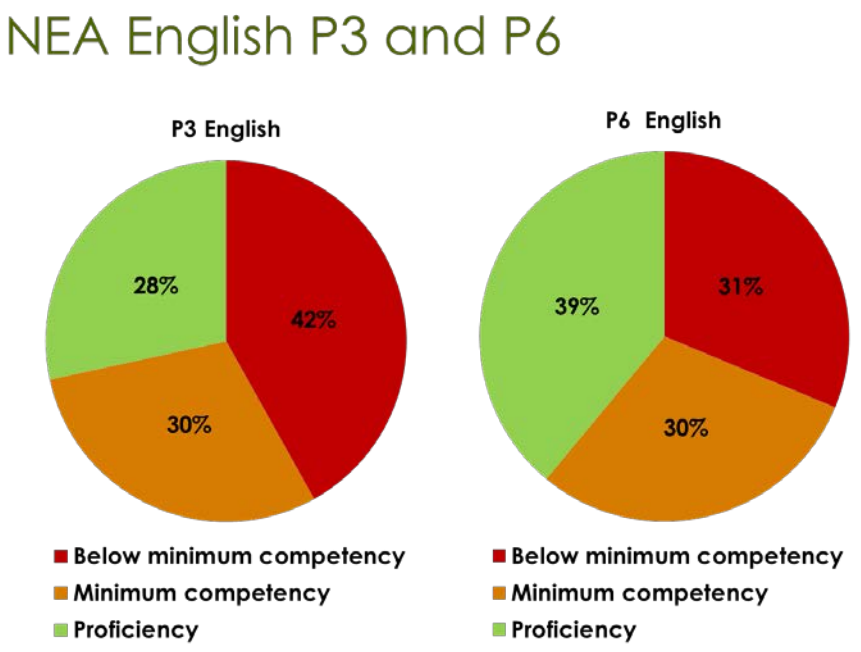
Figure 2 below illustrates the proportions of pupils achieving minimum competency and proficiency, as defined by the 'at least 35%' and '55% and above' cut-points. A third category presents the percentage of pupils whose performance fell below the minimum competency level, having less than 35% of the items correct.

Although the NEA findings indicated that primary school pupils were challenged by both English and mathematics, a noticeably small proportion of pupils achieved proficiency in mathematics. For P6 mathematics, only approximately 11% of the pupils reached proficiency, versus 22% in P3. In English, the results were better, with 28% of the pupils reaching proficiency at P3 and 39% at P6. Importantly, for ***both*** P3 and P6, approximately 40% of the pupils failed to achieve even minimum competency in mathematics and approximately 40% of the P3 pupils failed to achieve minimum competency in English.

In the subsections below, we delve deeper into these findings by subject domains, by cognitive skill area, and by core demographic variables such as gender, location, and type of school.

[12] As there are always three distractors and one correct answer in every multiple-choice item, pupils answering randomly can expect to get 25% correct answers.

Figure 2: 2013 minimum competency and proficiency results, English and mathematics, P3 and P6



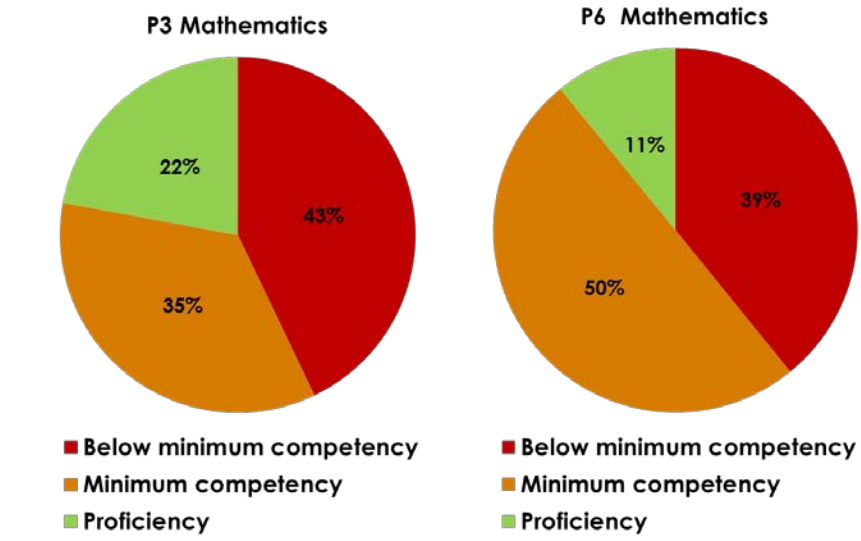


Table 1 shows the average percent correct scores nationally by grade and subject, the highest of which correspond approximately to the midpoint of the 35–54% *minimum competency* range. Further comparisons showed that the 2013 average (% correct) scores were not dramatically above or below the 2011 score equivalents.

Table 1: Overall average percent correct, by grade and subject

Subject	Grade	
	P3	P6
	Average score (%)	Average score (%)
Maths	41.1	38.2
English	44.4	48.9

Results by Domain and Cognitive Skill

As noted at the beginning of Section II, the questions in mathematics and English covered multiple domains, providing an opportunity to deepen understanding of pupils' relative strengths across domains and to help identify potential gaps in performance according to the different domains tested. The following provides information on pupil performances in relation to the subject domains.

English Outcomes According to Domain

As mentioned above, the English subject domains tested included (1) Listening Comprehension, (2) Grammar, and (3) Reading. These are briefly described below, with an example test question given for each domain.

The **Listening Comprehension** domain required children to listen to a short sentence that the test administrator presented orally twice, and then to identify one of four multiple choice responses that best aligned with the text recited by the administrator.

I am going to read a short text to you, twice. Select the correct answer for each.

"Draw a straight line from A to B."

[Repeat the text]

"Draw a straight line from A to B."

Now Choose the answer that matches what I said.

A 

B 

C A _____ B

D 

The **Grammar** domain assessed the pupil's ability to select the correct word in a sentence that would ensure the sentence was correct in content and grammatical structure. The pupil's knowledge of certain grammatical morphemes or 'function' words, such as prepositions and pronouns, were assessed along with other grammatical structures such as plurality and tense. For example:

She_____ here yesterday.

A **is**

B **was**

C **were**

D **are**

The **Reading** domain assessed pupils' ability to read a short passage silently and then answer a series of comprehension questions based on what they read, using a multiple-choice format. The following is an example from P3.

Ebo visited Uncle Ato at Cape Coast. His uncle is a fisherman. He saw his uncle fishing. The fishermen happily sang together while fishing. Ebo smiled to himself and said, "One day I will also learn to catch fish".

19. Where does Ebo's uncle live?

A **Chereponi**

B **Kade**

C **Cape Coast**

D **Komenda**

20. What work does Uncle Ato do?

A **He is a farmer.**

B **He is a nurse.**

C **He is a driver.**

D **He is a fisherman.**

21. What were the men doing as they worked?

A **Dancing**

B **Singing**

C **Eating**

D **Talking**

22. How does Ebo feel about fishing?

A **He likes fishing.**

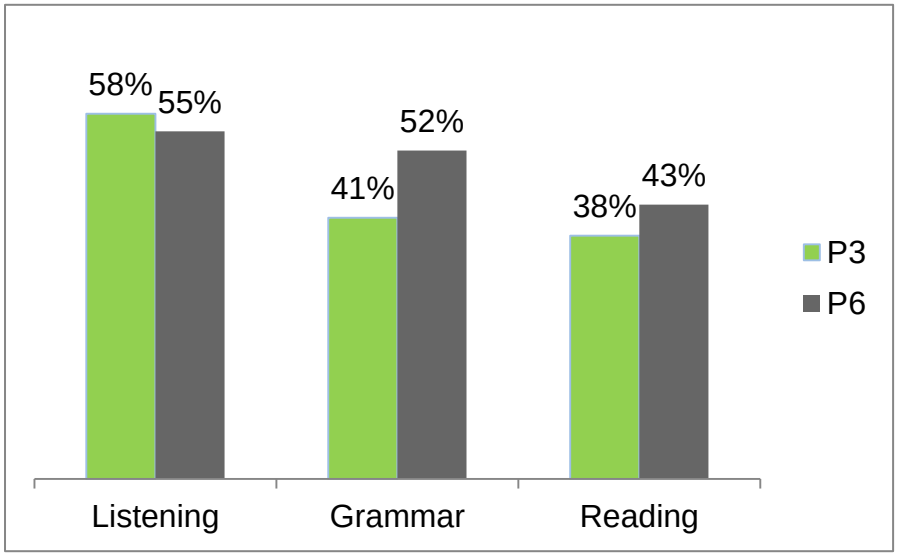
B **He is afraid of fishing.**

C **He does not know what fishing is.**

D **He often goes fishing.**

Figure 3 illustrates that on the 2013 English tests, performance on Reading was low relative to Listening and Grammar. Although in general the scores were higher for English Listening Comprehension, performance on English Listening Comprehension was still lower than what one would expect, especially for grade 6.

Figure 3: Average (% correct) scores by domain—English



English Outcomes According to Cognitive Abilities

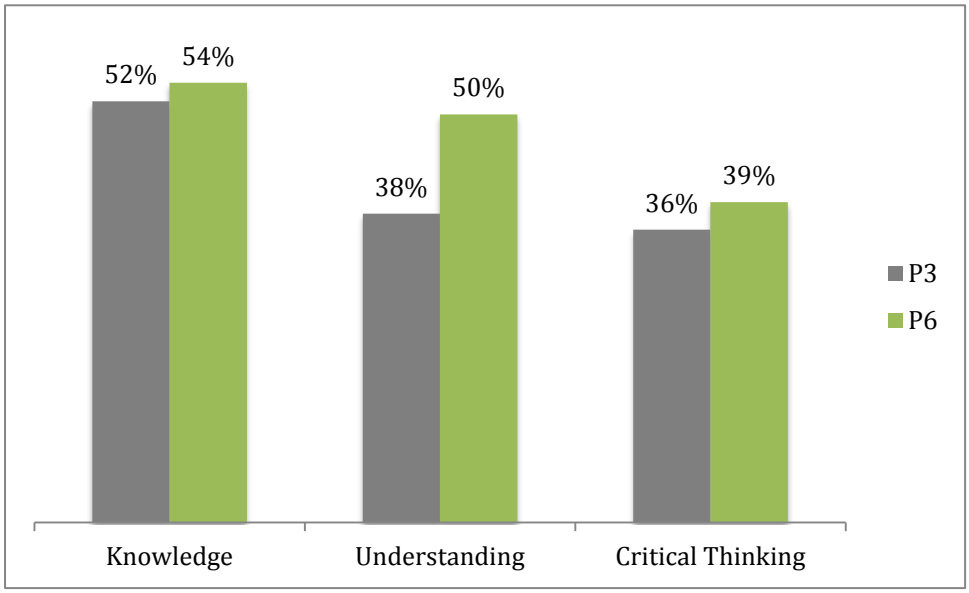
The English and mathematics tests were also designed to assess pupils' performance according to the types of cognitive abilities tapped into by the different test items. The English test items were distributed across three increasingly difficult levels of cognitive ability: (1) Knowledge; (2) Understanding of Concepts; and (3) Critical Thinking. The matrix shown in ***Table 2*** below describes the items in each English subject domain that corresponded to these three levels of cognitive ability.

Table 2: Definitions of cognitive processing type by domain: English language

Content Domain	Recall of Knowledge	Understanding of Concepts	Critical Thinking
Listening	– Answer appears word for word in text read by administrator – To the extent possible, distracters are directly referenced in text	Answer is derived from multiple pieces of information in verbally presented text	Answer is derived from various sources in the text or taps information/knowledge not provided in the text read by the administrator
Grammar	– Correct answer requires using a 1-step rule	Correct answer requires using a multi-step rule	Correct answer uses multi-step rule
Reading	– Answer appears word for word in the passage the pupil reads – Distracters directly referenced in reading passage	Answer is derived from multiple pieces of information in the passage student reads	Answer is derived from various sources in the passage the pupil reads or taps information/knowledge not provided in the passage

In English, on average, P3 pupils answered less than 40% correct on questions involving the higher-level cognitive abilities of Understanding (38%) and Critical Thinking (36%; see ***Figure 5***). Over half of the P6 pupils correctly answered at least 50% of the test items involving Knowledge and Understanding cognitive abilities (see above), but items involving Critical Thinking were difficult for P6 pupils, with an average percent correct score of 39%.

Figure 4: Average (% correct) scores by cognitive ability—English



Ghana primary school curriculum focuses predominantly on narrative text and occasionally on descriptive; other types of texts, such as informative and persuasive, are not featured extensively in the curriculum. By extension, teachers tend to limit reading instruction to predominantly narrative with some descriptive texts and thus children have more opportunity to learn and recite factual information and less opportunity to engage in activities that tap higher-level cognitive abilities. This was particularly true for the 2013 P3 pupils, who had difficulty with any questions that required having a deeper understanding and ability to manipulate the information given in the question, or being able to call on related information not explicit in the question itself—i.e., using inference.

Mathematics Outcomes According to Domain

As mentioned above, the four mathematics subject domains tested included: (1) Operations; (2) Numbers; (3) Mathematics/Shape and Space; and (4) Collect and Handle Data. These are briefly described below, with an example test question from the P3 mathematics test given for each domain.

The **Operations** domain involved having children compute basic mathematical operations involving addition, subtraction, multiplication, and division, such as:

32 + 63 = ☐

A **86**

B **91**

C **95**

D **99**

The **Numbers** domain assessed how well pupils understood basic numerical expressions, such as place value, numerical symbols, and the use of a number line. For example:

What is the value of 2 in 2581?

A **Two tens**

B **Two hundreds**

C **Two**

D **Two thousands**

The **Measurement/Shape and Space** domain involved understanding basic measurement and applying measurement skills to evaluate the relative size of shapes and spaces.

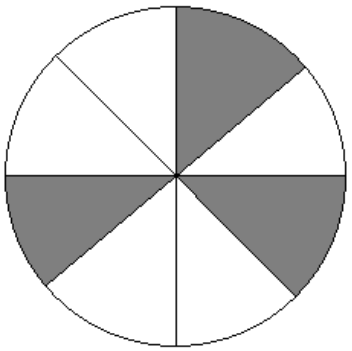
What fraction of this shape is shaded?

A $\frac{5}{9}$

B $\frac{5}{7}$

C $\frac{3}{4}$

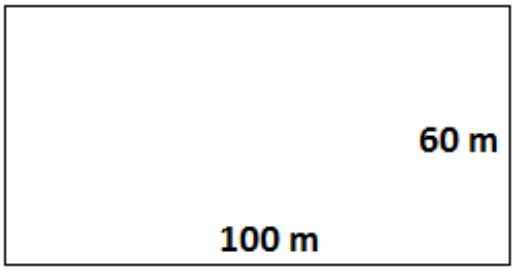
D $\frac{3}{8}$



The **Collect and Handle Data** domain required applying maths operations to data to perform "real life" mathematics problems. For example:

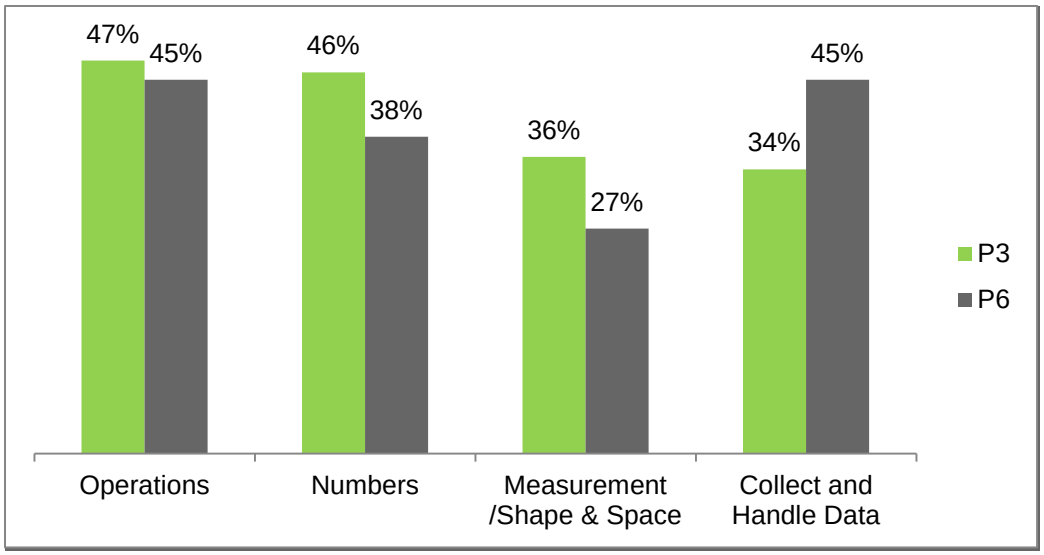
The picture shows a school park. Ali ran around the four sides of the park. What distance did Ali run?

A	**360 m**
B	**320 m**
C	**220 m**
D	**160 m**



As shown in ***Figure 5,*** pupils demonstrated the most difficulty with tasks in the Measurement/Shape and Space domain, for both P3 and P6. P3 pupils, but not P6, also had low scores in the Collect and Handle Data domain. These findings matched those from 2011.

Figure 5: Average (% correct) scores by domain—Mathematics



Mathematics Outcomes According to Cognitive Abilities

For the mathematics tests, three slightly different labels for cognitive processing types or levels were used. These did not differ in any substantive way from the levels agreed upon for English language, but were more relevant to the domains measured in mathematics. Like English, the mathematics test items were distributed across three increasingly difficult levels of cognitive ability: (1) Knowledge and Understanding; (2) Application; and (3) Mathematical Reasoning. The matrix shown in ***Table 3*** below briefly describes the three levels of cognitive abilities. Unlike for English, the descriptions for these cognitive ability categories apply similarly to all four mathematics domains.

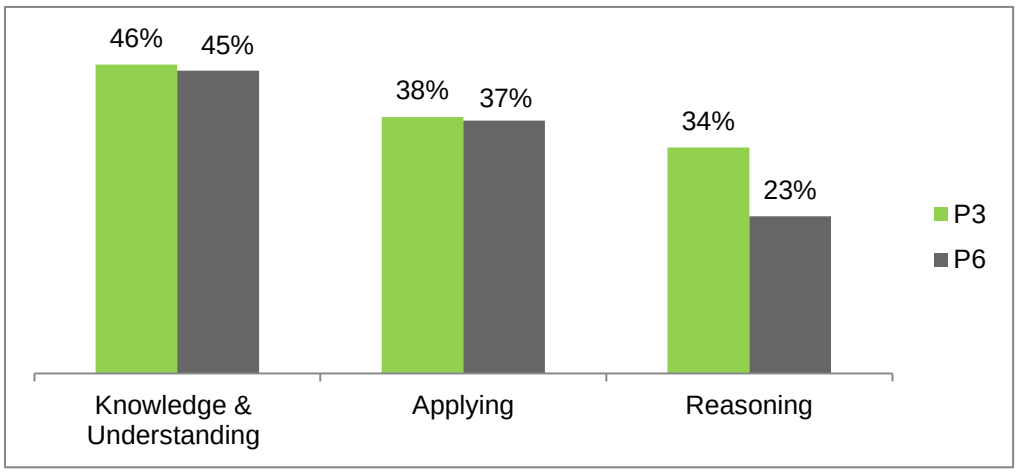
Table 3: Definitions of cognitive processing type by domain: Mathematics

Content Domain	Knowledge and Understanding	Application	Reasoning
Numbers and numerals	Test items require pupils to recall basic facts, identify, define, describe, list, name, match, state principles, facts and concepts	Test items require pupils to apply basic number facts and operations to solve real-life problems; to summarise, give examples, or make generalisations, or to estimate or predict consequences based upon certain trends in data.	Test items test pupils' capacity to apply logical, systematic thinking, including intuitive and inductive reasoning based on patterns and regularities that can be used to arrive at solutions to non-routine problems. (IEA definition, TIMSS 2011 Framework)
Basic operations			
Collect and handle data			
Measurement			
Space and shape			

The NEA mathematics items were designed to ensure that literacy would not present a barrier to valid assessment of a child's basic numeracy skills, and reading was not a requirement for completing the mathematics items that assessed lower-order cognitive abilities. However, to test a pupil's ability to apply basic mathematics facts and operations to solve problems, required of test items involving **Application** and **Reasoning** cognitive abilities, some word problems were necessary.

The analyses by cognitive ability (see ***Figure 6***) revealed that although both P3 and P6 pupils performed poorly on the mathematics test items involving Reasoning (i.e., on average, pupils obtained < 35% correct), these items were particularly challenging for the P6 pupils. The average percent correct score for P6 pupils (23%) was lower than 25% correct—the score that a pupil could have obtained by answering randomly or 'by chance' without any reference to the test questions.

Figure 6: Average (% correct) scores by cognitive ability—Mathematics



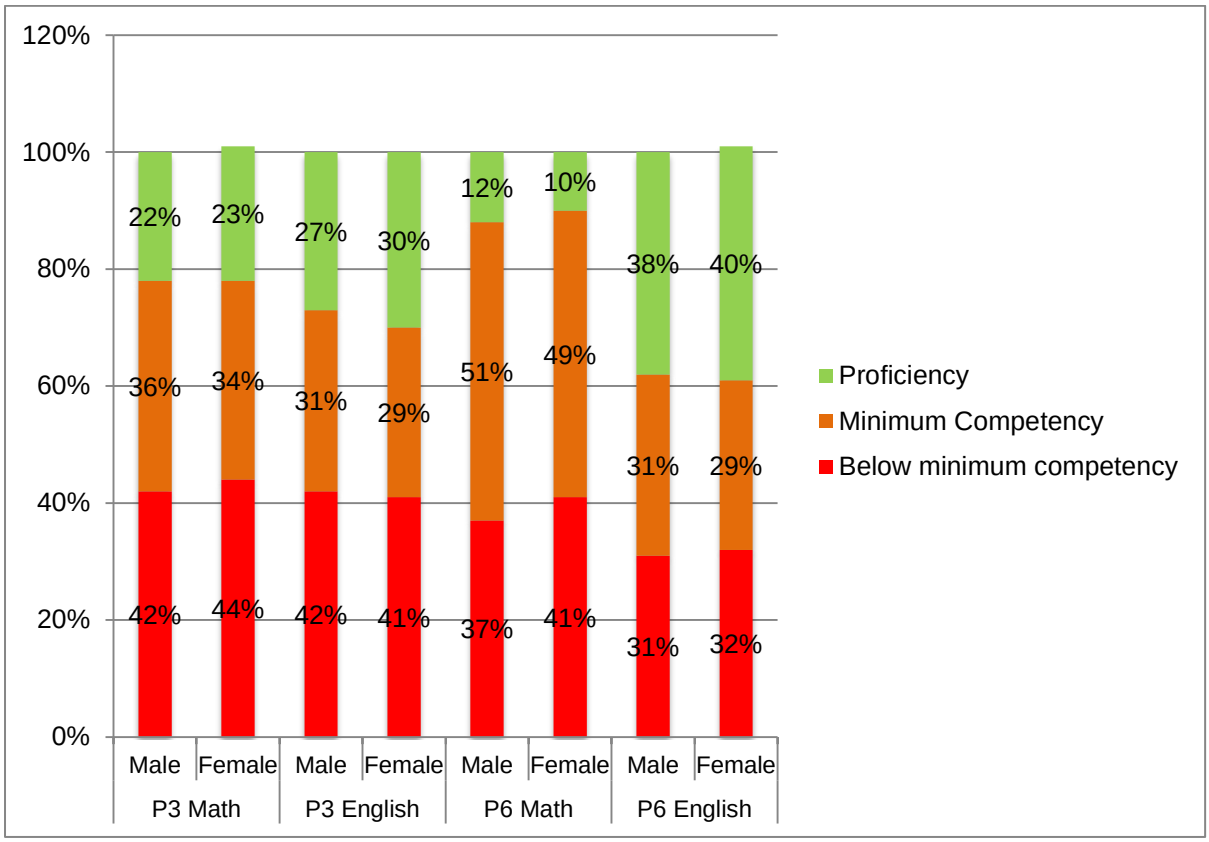
Results by Core Demographic Variables

Gender

Gender gaps were small when compared to other demographic variables, such as location of school and type of school (see ***Figure 7***); and gender differences were significant only for P6.

On average, in P6, males outperformed females in both mathematics and English. For P3 pupils, the differences were not significant. Similar results for gender were observed in 2011.

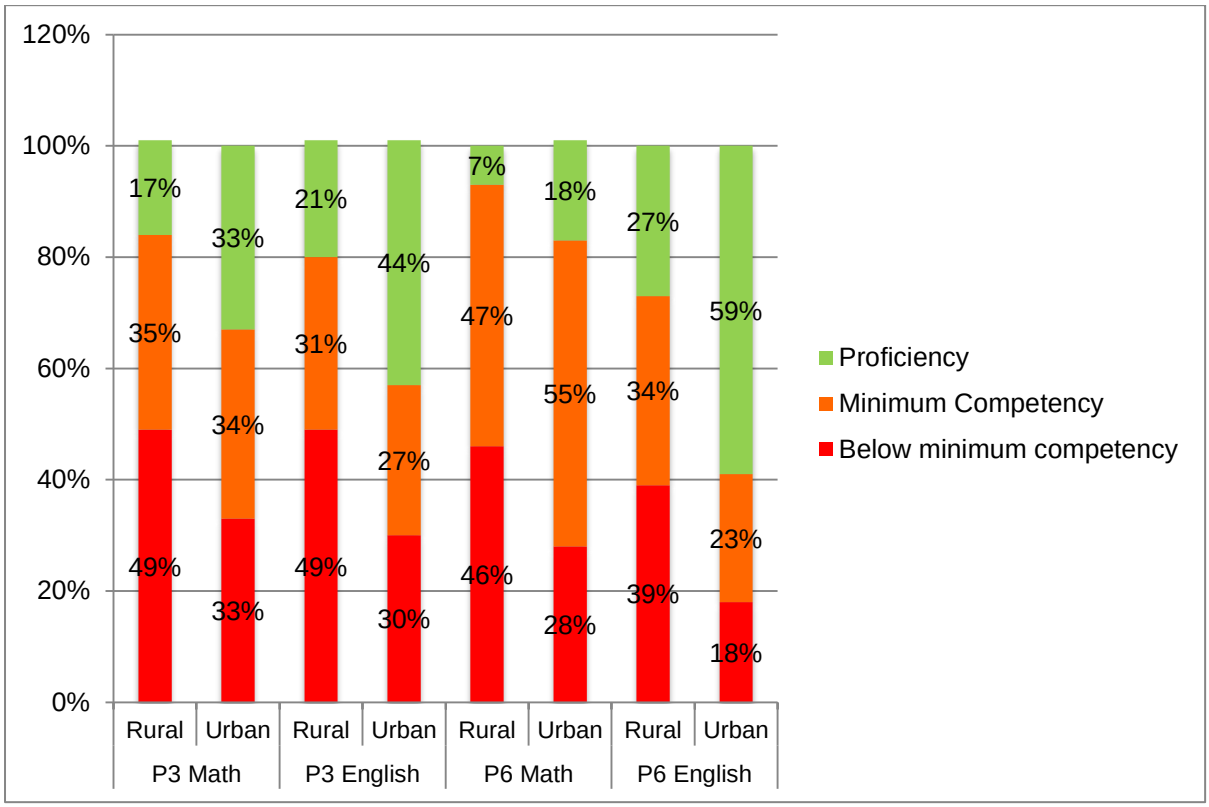
Figure 7: Percentages of pupils achieving minimum competency and proficiency levels, by school location



Urban vs. Rural

The differences between urban and rural areas were found to be both substantial and statistically significant for both P3 and P6 and for both the English and mathematics subjects. ***Figure 8*** presents the distribution of pupils across the three performance categories—below minimum competency, minimum competency, and proficiency— in urban versus rural locations. The gap between rural and urban for P6 English was particularly large in favour of pupils attending schools in urban regions. More than half (59.2%) of P6 English pupils reached proficiency in urban areas versus 27.1% in rural areas. Only 7.3% of the P6 rural pupils reached proficiency in mathematics. A larger percentage of pupils in rural locations failed to achieve even minimum competency than did pupils in urban locations; that is, they answered less than 35% of the questions correctly.

Figure 8: Percentages of pupils achieving minimum competency and proficiency levels, by school location



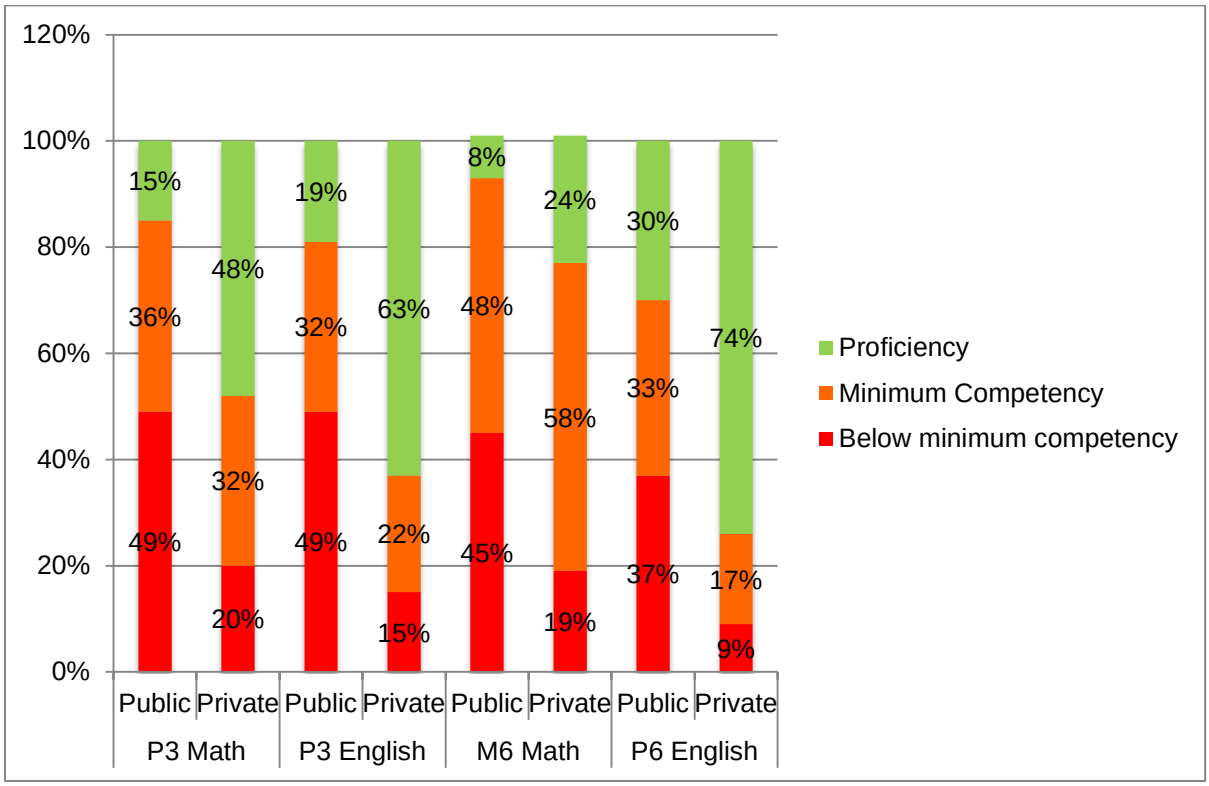
School Type

The NEA is administered in both private and public schools in Ghana. Private schools had much better results overall in 2013 than public schools ***(Figure 9).*** Among all the demographic variables, it was the factor having the largest effect in the multiple regression models (addressed later in Section III). The majority of pupils in private schools reached the proficiency level, except in P6 mathematics, where only 23.5% of the pupils in private schools achieved proficiency.

Unlike pupils attending public schools, more than 80% of the pupils in private schools reached minimum competency in both grades and both subjects. Close to 50% of the pupils attending public schools failed to achieve minimum competency (with the exception of P6 English, which was 39%). The results in mathematics were remarkably low in the public schools, with only 7.6% of the pupils reaching proficiency at P6 and 15.3% at P3.

While 63.4% of P3 pupils in private schools reaching proficiency in English, only 19.2% did so in public schools. As a rule, pupils in private schools tended to be more likely to speak English at home (as documented in the 2011 pupil characteristics), an established predictor of English achievement.

Figure 9: Percentages of pupils achieving minimum competency and proficiency levels, by school type



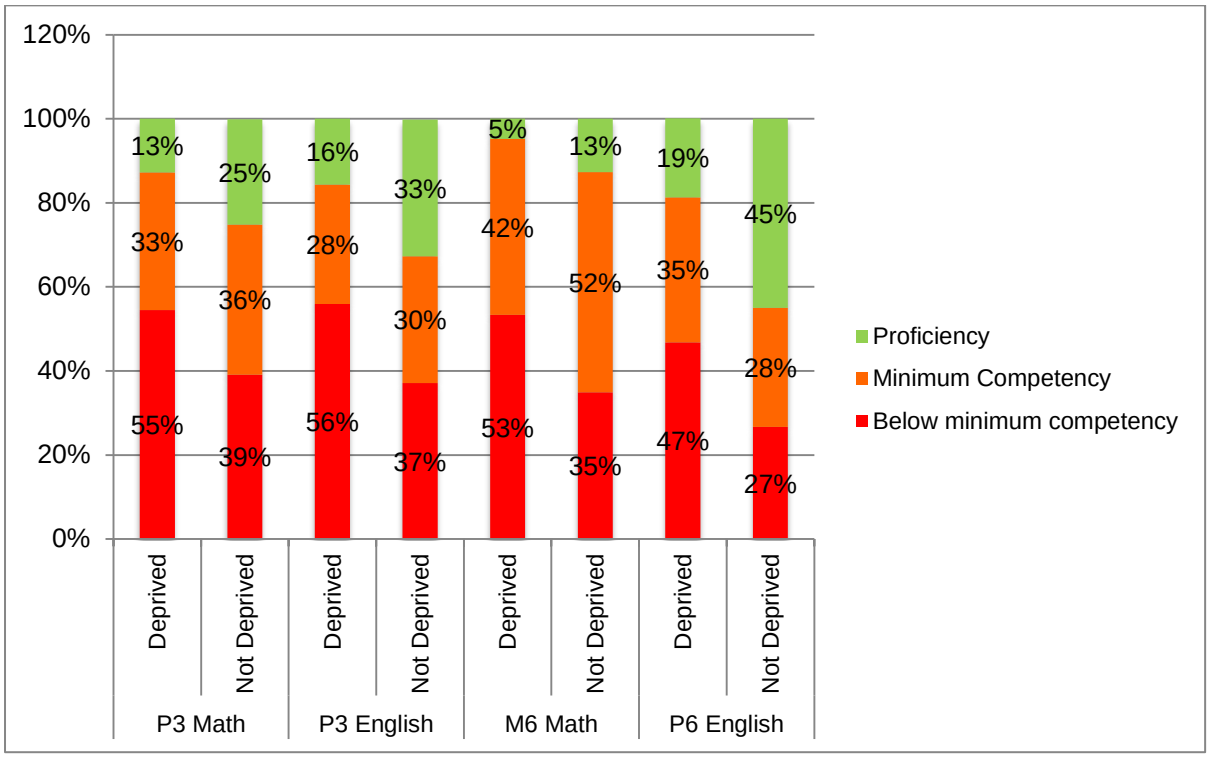
Deprived Districts

Since 1999, Ghana's government has classified roughly one third of the districts as *deprived*, based on various education outcome and resource indicators, including: gross enrolment rate (GER) in primary, gender parity, seats and core textbooks per pupil, share of schools needing major repairs, Basic Education Certificate Examination (BECE) pass rates in both English and mathematics, per pupil expenditure in primary, pupil–teacher ratio in primary, and the share of qualified primary teachers. The majority of districts in Ghana that are classified as 'deprived' are in one of the three northern regions (Northern, Upper East, Upper West).

The performance of pupils attending public schools in deprived districts and districts that are not deprived is presented in ***Figure 10.*** Performance among pupils attending schools in the deprived districts was much lower than that of pupils attending schools in non-deprived districts, and these differences were statistically significant. For all grades and subjects, the proportion of pupils reaching proficiency in deprived districts was less than half the proportion in non-deprived districts, and the proportion of pupils who failed to achieve minimum competency (i.e., < 35% correct) was substantially higher for pupils in the deprived districts.

A review of the characteristics of regions (see ***Table 4*** below) reveals marked inequities for the three regions in northern Ghana and helps explain the performance gaps between pupils in deprived and non-deprived districts.

Figure 10: Percentages of pupils achieving minimum competency and proficiency levels, by deprived and not-deprived district status



Regions

Table 4 presents relevant contextual information by region. As discussed earlier in the report, public schools in the northern regions and deprived areas are less likely to have qualified teachers, access to materials and minimal physical infrastructure. The higher dependency on public schools and lower levels of literacy in these poor and hard-to-reach regions, combined with inequities in public school inputs, may account in part for the lower scores in the most impoverished regions of the country, particularly the three regions of northern Ghana.

The findings presented in ***Table 4*** underscore noticeable regional differences, especially along three lines: (1) the regions of northern Ghana (shaded pink), (2) Greater Accra (shaded blue), and (3) the remaining six regions (shaded green). Compared to the rest of the country, the three northern regions of Ghana, where the bulk of deprived districts are located, had much lower percentages of literacy, were characteristically rural, and depended on public school education. In contrast, in Greater Accra, literacy rates were high, at approximately 90%; and 37.5% of the pupils residing in Greater Accra were attending private schools.

Table 4: Region characteristics

Regions	Percent sample in deprived district	Percent sample in urban areas	Percent sample in public schools	Percent literate 11+ years	Net enrol-ment rate (NER)	Percent districts with sub-standard PCE*	BECE pass rates: Maths	BECE pass rates: English
Ashante	7.0%	43.1%	75.8%	82.6%	74%	29%	74%	65%
Brong Ahafo	21.3%	43.0%	82.3%	69.8%	72%	35%	72%	59%

Regions	Percent sample in deprived district	Percent sample in urban areas	Percent sample in public schools	Percent literate 11+ years	Net enrol-ment rate (NER)	Percent districts with sub-standard PCE*	BECE pass rates: Maths	BECE pass rates: English
Central	0.0%	23.6%	79.5%	78.2%	73%	No Data	50%	52%
Eastern	6.0%	15.2%	77.0%	81%	75%	15%	53%	55%
Greater Accra	0.0%	75.6%	62.5%	89.3%	82%	7%	65%	81%
Northern	78.4%	27.3%	94.9%	37.2%	59%	65%	39%	42%
Upper East	82.7%	8.5%	91.8%	47.5%	72%	66%	37%	40%
Upper West	81.7%	14.2%	93.8%	46.2%	65%	45%	52%	46%
Volta	19.9%	17.8%	79.5%	73.5%	73%	0%	38%	54%
Western	20.8%	19.6%	75.8%	76.4%	77%	18%	65%	60%
All regions	26.4%	32.8%	81.2%	74.1%	73%	No Data	No Data	No Data
Source	NEA 2013	NEA 2013	NEA 2013	2010 Census	Ghana Stat. Service 2011	World Bank 2010	EMIS 2011	EMIS 2011

*Per pupil recurrent expenditure.

Table 5 presents the percentage of pupils in the three performance categories, according to the NEA cut-points for minimum competency and proficiency, across subject areas and grades. The inequities in performance across regions are noticeable, with markedly lower performance for pupils residing in the three regions of northern Ghana (shaded in pink) compared to pupils residing in Greater Accra.

The geographical differences in 2013 NEA performance can also be seen in ***Figure 11*** and ***Figure 12,*** maps that show regionally the percentage of pupils achieving the NEA criteria for proficiency at P3 and P6 in English and in mathematics. In English (see ***Table 5*** and ***Figure 11)***, the percentage of pupils achieving proficiency in P6 was slightly higher than in P3, across regions. Also shown for English are clear regional trends, with less than 25% of the pupils achieving proficiency in the three northern regions compared 25%–50% for the rest of the country, excepting Greater Accra where > 50% achieved proficiency in English.

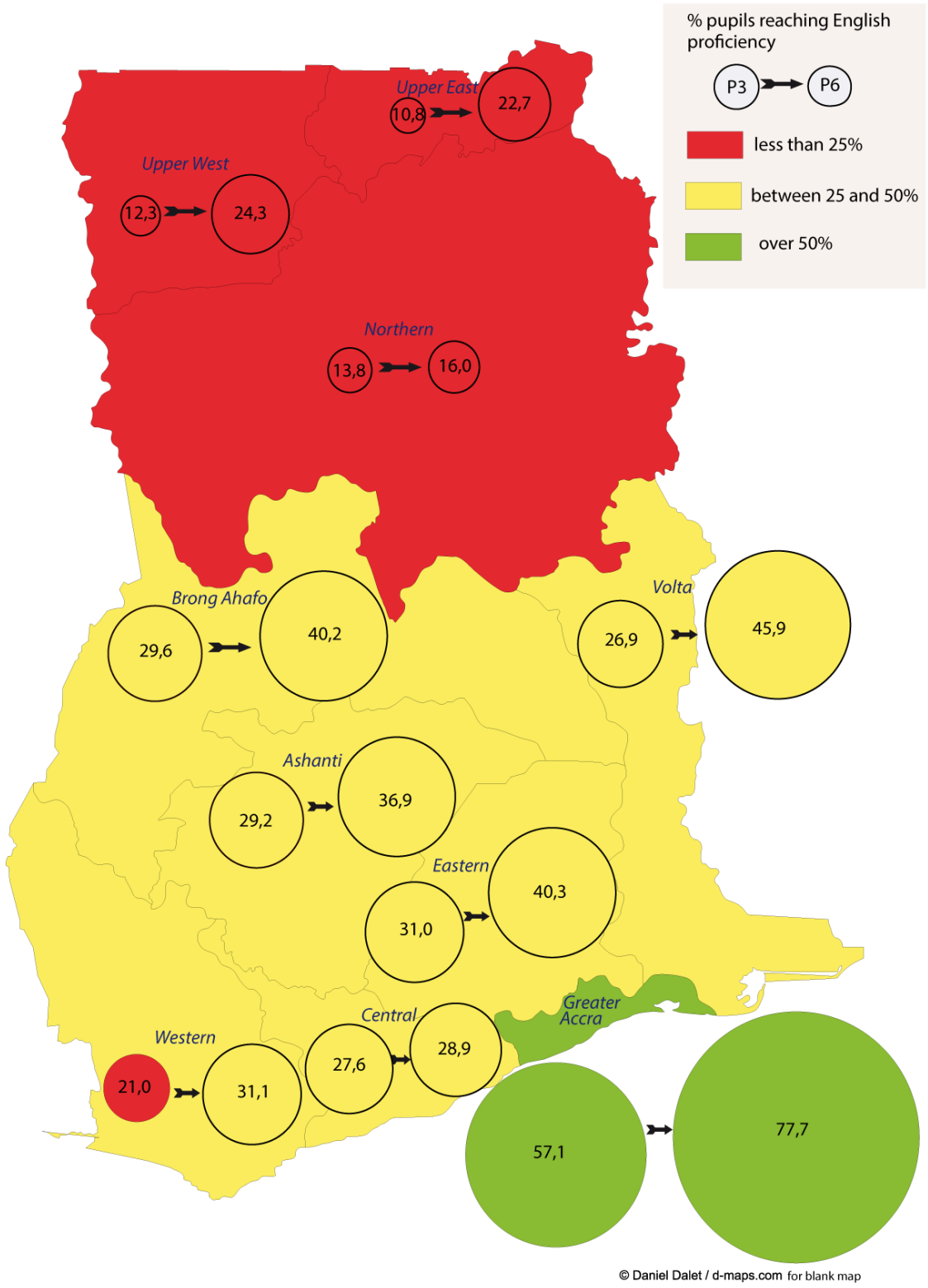
For P6 mathematics (see ***Table 5*** and ***Figure 12)***, the trends across regions were similar, with the lowest percentage of pupils achieving proficiency in the northern regions (and the Western region). However, in all regions—including Greater Accra—relatively few **P6 pupils** (< 25%) achieved proficiency in mathematics. Though further study is needed, two factors may have contributed to the poor performance in mathematics: (1) the difficulties that P6 pupils had on questions involving higher order cognitive abilities, especially Reasoning; and (2) the larger number of problems in P6 requiring some reading, potentially impacting performance.

Table 5: Percentages of pupils achieving minimum competency and proficiency levels, NEA 2013, by region

Proficiency level, by grade and subject	Regions									
	Ashanti	Brong Ahafo	Central	Eastern	Greater Accra	Northern	Upper East	Upper West	Volta	Western
P3 maths										
Below minimum competency	39.4	39.4	44.6	40.8	24.8	62.2	52.7	57.1	43.5	45.0
Minimum competency	37.4	37.3	35.4	34.9	31.3	28.0	37.1	32.5	35.0	38.8
Proficiency	23.2	23.2	20.0	24.3	43.9	9.8	10.2	10.4	21.5	16.2
P3 English										
Below minimum competency	39.6	36.8	38.9	38.0	20.4	62.1	60.8	58.9	40.6	47.9
Minimum competency	31.2	33.5	33.5	31.0	22.5	24.0	28.4	28.8	32.5	31.0
Proficiency	29.2	29.6	27.6	31.0	57.1	13.8	10.8	12.3	26.9	21.0
P6 maths										
Below minimum competency	34.8	35.8	48.4	37.3	17.9	58.9	50.0	46.1	37.3	44.5
Minimum competency	54.8	53.6	44.5	50.2	57.1	38.3	44.4	47.6	51.8	46.9
Proficiency	10.4	10.6	7.1	12.5	24.9	2.8	5.6	6.4	10.9	8.6
P6 English										
Below minimum competency	29.1	31.0	37.7	30.0	7.2	48.2	45.1	40.1	26.5	37.8
Minimum competency	34.0	28.7	33.4	29.7	15.1	35.8	32.2	35.6	27.5	31.1
Proficiency	36.9	40.2	28.9	40.3	77.7	16.0	22.7	24.3	45.9	31.1

Source: NEA 2013.

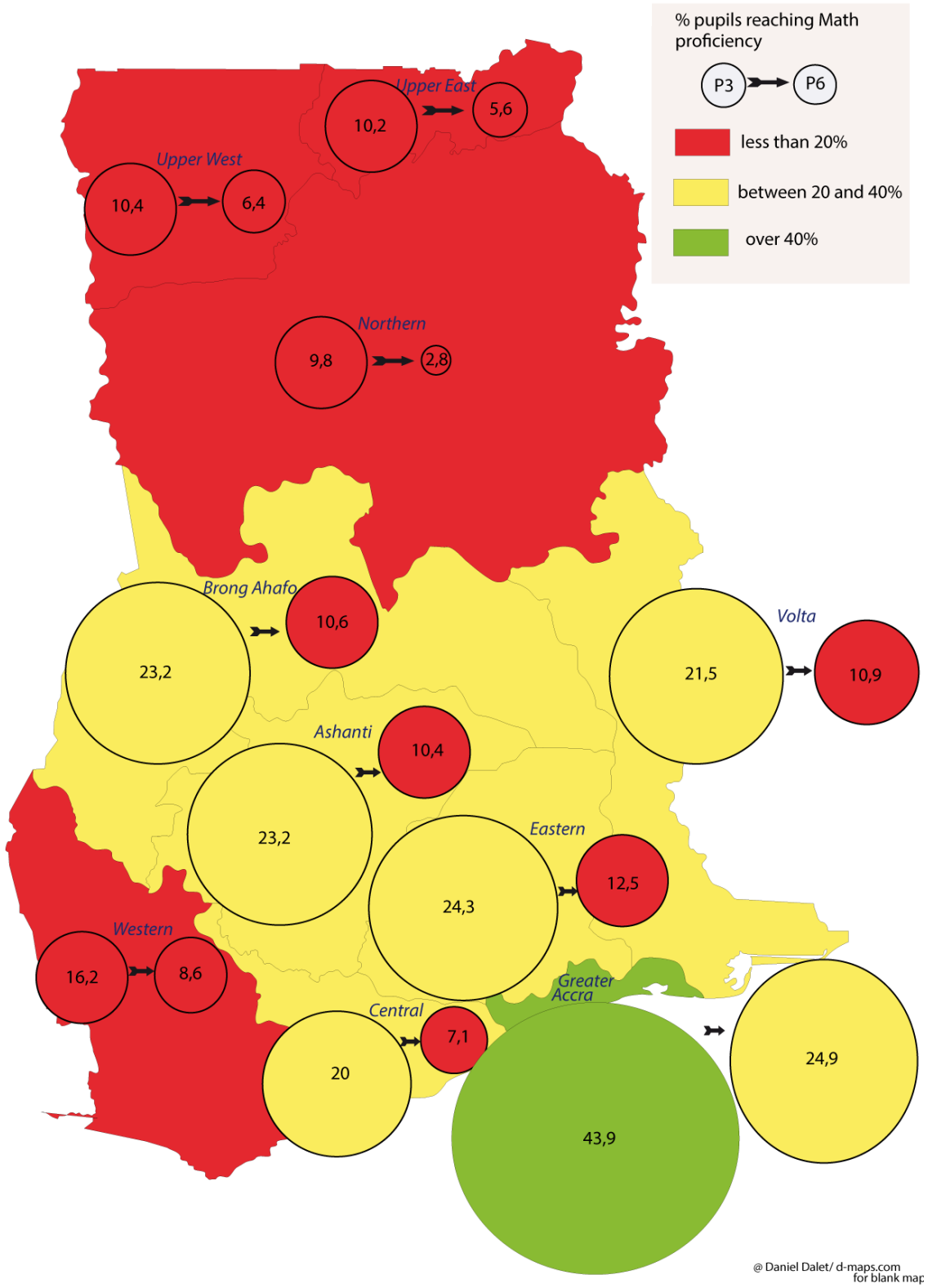
Figure 11: Proportion of pupils reaching 'proficiency' (scores ≥55%), 2013 NEA English, by region, P3 and P6



Data source: NEA 2013

Outline map source: http://d-maps.com/ carte.php?num_car=4676&lang=en

Figure 12: Proportion of pupils reaching 'proficiency' (scores ≥55%), 2013 NEA mathematics, by region, P3 and P6



Data source: NEA 2013

Outline map source: http://d-maps.com/ carte.php?num_car=4676&lang=en

Non-readers

In 2011 and 2013, estimating the proportion of pupils likely to be non-readers involved examining scores on reading comprehension items that required only the basic Knowledge cognitive ability; that is, comprehension questions where the answers were explicit in the reading passage. Pupils who had 0 or 1 item correct on these 'knowledge-level' comprehension items were considered likely to be non-readers.

To illustrate what being a 'non-reader' meant, below is an example of a P3 reading comprehension item (see also ***Annex A***). Note that the answer is explicit in the text, such that a pupil with basic reading skills should have been able to answer the comprehension question easily.

Ebo visited Uncle Ato at Cape Coast. His uncle is a fisherman. He saw his uncle fishing. The fishermen happily sang together while fishing. Ebo smiled to himself and said, "One day I will also learn to catch fish".

19. Where does Ebo's uncle live?

A Chereponi

B Kade

C Cape Coast

D Komenda

The data on non-readers for 2013 are shown in ***Table 6.*** In both P3 and P6, there were sharp differences in the proportions of non-readers among public and private school pupils. Approximately 41% of the public-school pupils in P6 were considered likely to be non-readers. Moreover, for P3, the NEA estimates of non-readers are supported by the 2013 EGRA results, as they both yielded exactly the same proportion of non-readers: 50%.

Table 6: NEA 2013: Proportion of pupils likely to be non-readers (score on reading comprehension ≤25%, calculated on Knowledge and Understanding items)

P3 (12 items)	
Type of school	**Proportion**
Public	50.0%
Private	22.8%
All	44.4%

P6 (16 items)	
Type of school	**Proportion**
Public	41.4%
Private	11.8%
All	35.2%

Relationship Between Mathematics and English Results

In 2011, there was no possibility to evaluate the relationship or 'correlation' between pupils' performances in mathematics and English, because pupils turned in two separate test forms: one for mathematics and one for English. To remedy this situation, as noted earlier, a double-sided coding sheet (see Figure 1) was introduced in 2013 that allowed the same pupil to complete both the mathematics and English tests using the same sheet. Therefore, an individual pupil's responses on both the mathematics and English test could be analysed and correlated. Generally speaking, a correlation analysis explores the relationship between one score and another (e.g., the mathematics score and the English score). For example, if pupils who do well in mathematics also do well in English, then mathematics and English are said to be ***positively correlated.*** The strength of the relationship is given by the ***correlation coefficient*** (i.e., the numerical estimate of the correlation). The larger the correlation coefficient, the stronger the relationship between the two tests. In the analysis of the 2013 data, the correlations between pupils' performance in mathematics and English for P3 and P6 were 0.68 and 0.66, respectively, and were statistically significant. In other words, pupils who performed well in mathematics were likely to perform well in English, and vice versa.

Further analyses cross-tabulated pupil performance in mathematics and English based on the NEA cut-points for minimum competency and proficiency for P3 and P6. These findings indicated that pupils who achieved proficiency in one of these subjects were likely to achieve proficiency in the other subject. The results showed that it was unlikely that a pupil achieving proficiency in one subject would achieve only minimum competency or fail to achieve minimum competency in the other subject.

Relationship Between Individual and School Characteristics and Pupils' Performance

An additional series of analyses was conducted with the 2013 NEA data to study the relationship between a variety of individual and school characteristics and mathematics and English performance.[13]

Several factors were significantly correlated (see above for a brief description of correlation) with the NEA learning outcomes, namely: (1) location of the school in one of the three northern regions; (2) type of school (public vs. private); (3) school location (urban vs. rural); (4) pupil age; and (5) pupil gender—for P6 only.

Results of these analyses showed that pupils who were enrolled in a **private school** and pupils residing in an **urban area** performed better than children in public schools and children residing in rural areas.

Pupils **living in one of the three regions in the north** consistently had lower scores than pupils in other parts of the country.

Age was not associated with performance on P3 mathematics, but there were statistically significant negative correlations between: (1) age and performance in P3 English; (2) age and P6 mathematics; and (3) age and P6 English. Thus, with the exception of P3 mathematics,

[13] A series of multiple regression analyses; a detailed discussion of these analyses is given in the Technical Report.

older pupils tended to perform less well than their younger peers in the same grade. This is an area of important further study. As mentioned earlier (Section 1, Background, page 1) results from a 2010 UNICEF study found that in rural locations, approximately 60% of 6-year-old children and 45% of 7-year-old children were still not in school, while in urban areas, a much smaller proportion of children (who were of the age for P1 enrolment) were out of school; 43% of 6-year-old children and 23% of 7-year-old children were not in school.[14] Thus, late entry into P1 may be one factor among many that contributed to lower performance among children residing in rural areas as compared to urban areas.

Gender was not identified as a factor of performance in P3 English or P3 mathematics, but there was a significant relationship between gender and performance in P6. In general, females in P6 obtained lower scores than males in both mathematics and English.

Summary: What do we know about pupils who did well on the NEA?

One component of the 2011 NEA was to investigate the relationship between a number of school-based and individual factors and performance on the NEA. A number of demographic factors were found to be significantly related to performance on the 2011 NEA, including: (1) location of the school; (2) type of school; (3) school infrastructure/facilities; (4) teacher qualifications; (5) schools that had high numbers of transfers; (6) multi-grade classrooms; (7) schools that kept registers up to date; and (8) English spoken at home. Although this analysis of factors related to pupil learning was conducted in 2011, the 2013 NEA team agreed that these factors likely would not change from 2011 to 2013 and, therefore, a study of factors associated with learning was not conducted as part of the 2013 NEA. Nevertheless, drawing upon the 2013 data and summarising the 2011 findings on pupil characteristics inferred from the EMIS data, we can make the following conclusions:

Higher performing pupils were ***less*** likely to attend a school:

- in a remote location[15]
- in an urban rather than rural area
- in a deprived district
- in one of the three northern regions
- with a record of high numbers of inter-school transfers
- with multi-grade classrooms (e.g., classes merged in schools due to low enrolments).

Higher performing pupils were ***more*** likely to attend a school:

- that was a private school rather than public school
- with facilities such as electricity, water, and toilets, as well as resources such as textbooks and teacher reference materials
- that kept administrative registers up to date (e.g., admission or classroom registers, inventories, teachers' attendance registers, logbooks, visitors' books)
- with a high proportion of trained and qualified teachers.

[14] UNICEF (2010), as cited in Darvas & Balwanz (2013); see footnote 2.
[15] 'Remote' means at least 10 km from district office, head house, or next primary school.

Higher performing pupils were ***more*** likely to:

- speak English at home.

IV. Conclusions

The NEA 2013 research team, including NEAU representatves, presented draft conclusions and recommendations at a dissemination workshop—the National Policy Forum—in Ghana in February 2014 for the Ministry of Education and other stakeholders. Feedback from these reviewers, as well as input from the earlier District Cluster Forums managed by the NEAU, was incorporated into the draft recommendations and used to create this section of the final version of the NEA Summary of Results report. The recommendations centred on instructional methods, teacher training and support, availability of teaching and learning materials, and parent and community involvement.

Reading Instructional Methods: How Pupils Learn vs. What Pupils Learn

Study results:

The EGRA study showed that when children have a grasp of some of the basic 'building blocks' in learning to read, such as understanding of letter sounds and the ability to decode or 'sound out' new words, they are more likely to be able to read fluently (e.g., quickly) and to understand what they read. Few pupils demonstrated these basic skills on the EGRA, in any of the languages assessed; and therefore it should not be surprising that few children in the EGRA study (on average, less than 2%) were able to read a passage fluently and with comprehension.

Recommendations:

Instructional methods for teaching reading need to shift from the conventional 'chalk and talk' methods to classroom instructional practices that focus on the critical components of successful literacy acquisition, so that students learn to read in the early grades. When teachers develop their students' oral language skills (e.g., phonological awareness and vocabulary) and teach the relationship between letters and sounds in a systematic and explicit fashion, their students have the foundation for success in recognising words and reading with comprehension. Ghanaian teachers need to be trained in these teaching methods through both in-service and pre-service programmes.

Reinvigorating the National Literacy Acceleration Programme (NALAP)[16] would be an important first step toward reaching this goal. Within the NALAP curriculum is a clearly stated timetable for literacy instruction. A reasonable literacy timetable should be established as policy. The timetable should incorporate shared and independent reading as appropriate, to ensure that students have time to practice their new skills.

[16] As summarised in the 2013 EGRA/EGMA analysis report, "NALAP provides for instruction in the predominant Ghanaian language of the local community through grade 3, with English introduced gradually in the early grades, and pupils making the full transition in grade 4. By grade 4 the programme assumes pupils will have first become fluent speakers and readers of the Ghanaian language of instruction, followed by English" (p. 2).

Mathematics Instructional Methods: How Pupils Learn vs. What Pupils Learn

Study results:

On the EGMA study, students did reasonably well on the most procedural of items, such as the basic addition and subtraction facts. However, on the more conceptual items, there was a sharp drop-off in performance, with nearly 70% of the pupils unable to answer a single subtraction level 2 item correctly—the easiest of these being: 19 – 6 = ☐. This stark difference in performance between the more procedural and more conceptual subtasks suggests a lot about how children in Ghana are likely to experience school mathematics. That is, it is likely that they experience mathematics as a subject in which you have to know (remember) the answer rather than having a strategy for developing it; or as the memorisation of facts, rules and procedures rather than as a meaningful, sense-making, problem-solving activity.

Recommendations:

Either through their own resources or with the assistance of technical experts, the Ministry of Education and the GES need to identify effective, evidence-based practices regarding the teaching of early grade mathematics. Such an approach would support the acquisition of foundational mathematics *and* reading skills, with an emphasis on students' conceptual understanding.

Once the Ministry and the GES have established an evidence-based approach to teaching early grade mathematics for Ghana, attention should shift to implementing the approach.

The implementation should be achieved through both in-service and pre-service teacher training programmes. Teachers need to receive specific training on how to teach mathematics in the early grades. In addition, suitable learning materials need to be developed.

Teacher Development and Management

Study results:

International research on learning shows that students who attend classrooms where teachers are qualified, engaged with their pupils, and well supervised are more likely to do well in school. In many countries, schools in remote regions and early grade classrooms tend to have fewer qualified teachers than in urban areas and in upper primary classrooms. In this case, the study findings demonstrated that students in urban settings consistently outperformed students in rural settings, especially in the three regions of northern Ghana.

Teachers and teaching practice, teacher management, supervision and support, and teacher placement and incentives were the subjects of much discussion at the National Policy Forum. The importance of addressing these issues was the most prominent of the recommendations emerging from the policy dialogue.

Recommendations:

Districts need to establish systems for regular school, teacher and student performance monitoring, tied to clear performance targets. Data from such district monitoring systems should be used to inform school- and district-wide interventions for improving student learning outcomes.

District and school management should work together to ensure that sufficient supervision or coaching is available to assist teachers as they learn and apply new and effective teaching methods. To this end, training on effective coaching for circuit supervisors and head teachers is needed. Budget allocations to support regular school coaching visits by district circuit supervisors must be provided for.

Policy related to placement and distribution of teachers in primary schools should be reviewed and improved upon to better support early grade literacy and numeracy attainment. Qualified teachers are needed in the lower primary grades and in rural areas. Furthermore, whenever and wherever possible, teachers placed in the lower primary classrooms should be fluent and literate in the language of learning and instruction of their placement school. To support this, it is recommended that Ghanaian language pedagogy (e.g., teaching reading and mathematics in the local language and bridging to English in the mid-primary grades per Ghanaian language policy) be considered as a required, examinable course in the Colleges of Education.

Time to Practice and the Availability of Materials

Study results:

The EGRA and EGMA studies showed that the majority of pupils had an exercise book, but less than half of the children had an English or mathematics textbook. Fewer pupils (only approximately 35%) had a supplemental reader, and only 20% of the pupils reported that they were able to take materials home for practice. Study findings showed that the few children who were able to read with comprehension had access to materials and also practiced reading at school and at home.

Recommendations:

Unless pupils gain the basic reading and mathematics skills in the early grades and are given ample opportunity to practice, they will fall farther and farther behind in school in the later years. Reading and mathematics textbooks and supplemental materials that children can take home to practice are important for children's learning.

The GES, District and Regional Education Officers, the District Assembly, and head teachers should work together to ensure that all students have textbooks in school and are allowed to take texts home.

The GES, District and Regional Officers, the District Assembly and District Education Oversight Committee, School Committees, parent-teacher associations, community members, religious organisations, language bureaus, nongovernmental organisations, and the private sector should come together to contribute to building a strong base of supplementary readers for students to use at school and at home for independent reading and practice—in local languages and in English. Establishing 'classroom book boxes' and reinvigorating the community library are examples of what could be done.

Parental Involvement

Study results:

The study findings showed that pupils who had higher learning outcomes on the national assessments were more likely to: attend school regularly; have books to take home and use for practice; have homework assignments that are graded by teachers; and have someone at home who helps them with their homework (e.g., someone to read to or do mathematics problems with).

Recommendations:

As part of the GES/NEAU nationwide dissemination programme from November 2013 to January 2014, District Advocacy Teams (DATs) were established to champion advocacy for children's learning, in districts and communities. Support from the Regional and District Education Offices and the District Assemblies to keep these DAT teams active is recommended.

Parents and communities should work closely with teachers and schools to develop and implement programmes to support children's learning at home and in the community. A few ideas from participants included: (1) Organise community-level parent advocacy groups focusing specifically on supporting early grade learning in reading and mathematics; (2) encourage regular school attendance by all children; (3) organise storytelling, shared reading, and after-school programmes; and (4) strongly encourage parents to visit schools often, meet with teachers and discuss how they can help their child at home.

Annex A. Sample NEA 2013 Test Items

P3 English

Section A: Listening

From Test Administrator version:

I am going to read a short text to you, twice. Select the correct answer for each.

Here is a practice question.

"Draw a straight line from A to B."

[Repeat the text]

"Draw a straight line from A to B."

Now Choose the answer that matches what I said.

What is the correct answer? "C", right?

So, you select C and mark it on your answer sheet.

[NOTE: The practice question is not in the answer sheet]

PRACTICE QUESTION:

Draw a straight line from A to B.

A 

B 

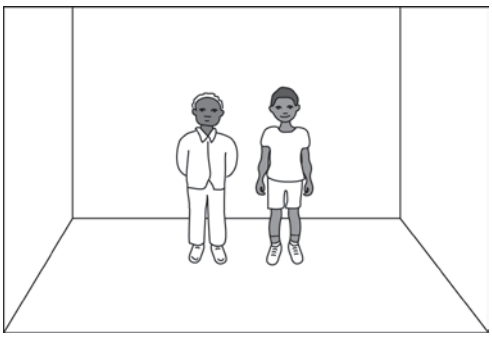
C A _____ B

D 

Section B: Grammar

Choose the correct word or words that complete each of the following sentences.

1. There are _____ boys in the room.



A four

B two

C one

D three

Section C: Reading

First read the text then answer the questions that follow.

My name is Umar. I live on a farm with my mother, father and sister Aisha. Every year the land gets very dry before the rains come. We watch the sky and wait. One afternoon as I sat outside, I saw dark clouds. Then something hit my head, lightly at first and then harder. I jumped up and ran towards the house. The rains had come at last.

23. Where does Umar live?

    A In the city

    B Next to a shop

    C In the north

    D On a farm

24. Why does the land get dry?

    A Because there isn't much rain.

    B Because the land is too poor.

    C Because they farm on it.

    D Because there are no trees.

25. Why do Umar and his family watch the sky?

    A Because they have nothing to do.

    B They are looking at all the birds.

    C Because they see a plane fly over the house.

    D They want to see if it is going to rain.

26. How do you think Umar felt at the end of the story?

    A Afraid

    B Happy

    C Sad

    D Angry

P6 English

Section A: Listening

From Test Administrator version:

Questions 5 and 6: Here is the text. Please listen carefully.

None of the children of Ofo village are in school today. Many of the boys and girls are playing football with their friends. Others are singing and dancing. Seidu and Amina are not with their friends. They are going to help their father to harvest his crops.

Question 5: Why are Amina and Seidu not playing with their friends today?

Question 6: What work does Amina and Seidu's father do?

From pupil forms:

5.

A They don't like playing football.

B They are going to help their father.

C They have no friends.

D They prefer to go dancing.

6.

A He works at the bank.

B He is a teacher.

C He is a shop keeper.

D He is a farmer.

Section B: Grammar

Choose the correct word or words that complete each of the following sentences.

9. There are only _____ pupils in the school today.

A any

B much

C a few

D little

Section C: Reading

First read the text then answer the questions that follow.

At mid-day last Wednesday the sky changed. Suddenly strong cold winds began to blow. The traders' goods were flying away in the strong winds. The traders were running all over the place trying to save the goods which were being taken away in the storm.

Then it began to rain cats and dogs. Soon the market was flooded with water rushing into the shops and stalls. The water had risen to knee level and goods were being washed away. Buildings started collapsing. Akusika's mother held her daughter by the hand and pulled her out of the shed under which they stood.

Immediately they left the shed, it collapsed missing them by inches. Aku's mother exclaimed: "Thank you, God!" Aku added: "Amen."

Marketing had turned into mourning. While some traders were running for their dear lives, others were busy rescuing their goods in the floods.

25. What caused the sky to change?

    A The flood

    B The dark clouds

    C The rain

    D The strong winds

26. Why were the traders running all over the market?

    A The sky changed.

    B Strong cold winds began to blow.

    C They were trying to rescue their goods.

    D It was a market day.

27. Why did many traders weep?

    A It had rained heavily.

    B They lost some of their wares.

    C The sky changed.

    D They did not thank God.

28. Why did Akusika's mother thank God?

    A She and her daughter had stayed in the shed.

    B She liked the rain.

    C The weather was cold.

    D Her and her daughter's lives were saved.

P3 Maths

1. 32 + 63 = ☐

A 86

B 91

C 95

D 99

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6. 3 x 2 x 4 = ☐

A 9

B 12

C 16

D 24

10. Kofi had 11 mangoes. He ate some mangoes and there were 8 left. Which number sentence describes what happened?

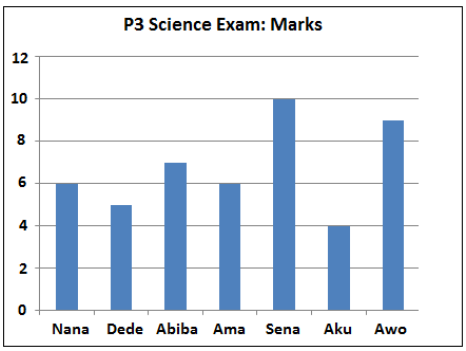
A 11 – ☐ = 8

B 8 – ☐ = 11

C 9 = 11 + ☐

D 11 + 8 = ☐

29. What is Ama's mark in the P3 Science exam?



A 5

B 6

C 7

D 10

P6 Maths

2. 475 − 27 = ☐

A 502

B 452

C 448

D 205

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10. Adama paid GH¢ 17.50 for a dress. She sold the dress for GH¢ 20. What was her profit?

A GH¢ 3.50

B GH¢ 2.50

C GH¢ 35.00

D GH¢ 17.00

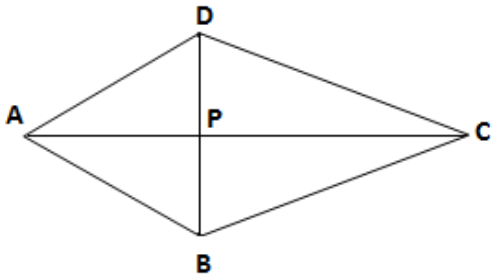
33. Which of the following is true about the lines in the kite?

A BP = DP

B AP = CP

C AB = BC

D AD = DC



39. Calculate the average number of bananas eaten by the 5 people in one month.

Name	Kofi	Koku	Ami	Mam	John
Oranges	10	8	9	10	20
Bananas	17	12	13	19	14

A 19

B 15

C 12

D 10