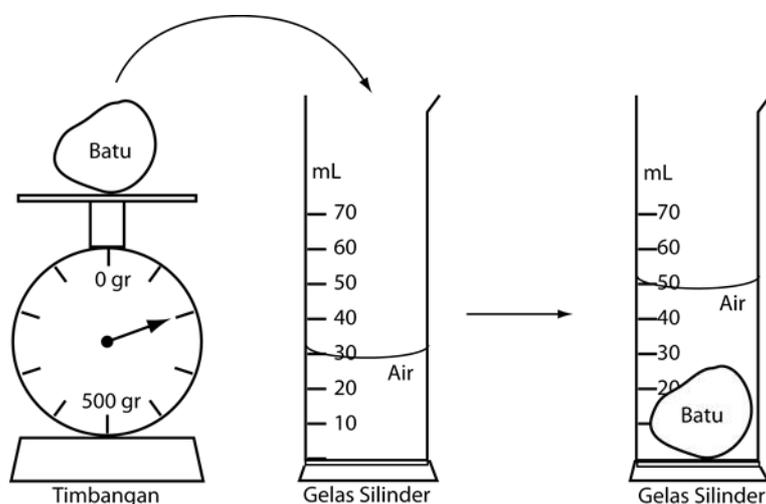




## Prioritizing Reform, Innovation, and Opportunities for Reaching Indonesia's Teachers, Administrators, and Students (USAID PRIORITAS)



### **MIDLINE MONITORING REPORT, VOLUME 2: Assessing the Impact of the USAID PRIORITAS Program on Student Performance in Bahasa Indonesia, Mathematics, and Science in Schools in the Cohort 2 Districts**

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MIDLINE MONITORING REPORT, VOLUME 1: Assessing the Impact of the USAID PRIORITAS Program on Student Performance in Bahasa Indonesia, Mathematics, and Science in Schools in Cohort 2 Districts

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Prepared for  
USAID/Indonesia

Prepared by  
RTI International\*  
3040 Cornwallis Road  
Post Office Box 12194  
Research Triangle Park, NC 27709-2194

\*RTI International is a trade name of Research Triangle Institute.



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## List of Acronyms, Abbreviations, and Terms

CLCC	Creating Learning Communities for Children (UNESCO-UNICEF, 1999–2010)
DBE	Decentralized Basic Education (project or district)
DBE3	Decentralized Basic Education 3 Program (USAID, 2005–2011)
EGRA	Early Grade Reading Assessment
EU	European Union
Kabupaten	District or Regency
Kota	City or Municipality
Madrasah	Islamic School
MBE	Managing Basic Education (USAID, 2003–2007)
MGP-BE	Mainstreaming Good Practices in Basic Education (project) (UNICEF-EC, 2007–2010)
MI	Madrasah Ibtidaiyah (Islamic Primary School)
MIIN	Madrasah Ibtidaiyah Negeri (State Islamic Primary School)
MTs	Madrasah Tsanawiyah (Islamic Junior Secondary School)
NZAID	New Zealand Agency for International Development
PAKEM	Pembelajaran Aktif, Kreatif Efektif dan Menyenangkan (Active, Effective, Creative and Enjoyable Learning)
PEQIP	Primary Education Quality Improvement Program (1992–1998)
PRIORITAS	Prioritizing Reform, Innovation, and Opportunities for Reaching Indonesia’s Teachers, Administrators, and Students Project
Puskur	Curriculum Development Center (MOEC)
RTI	RTI International (trade name for Research Triangle Institute)
SD	Sekolah Dasar (Primary School)
SDN	Sekolah Dasar Negeri (State Primary School)
SMP	Sekolah Menengah Pertama (Junior Secondary School)
TIMSS	Trends in International Mathematics and Science Study
TK	Taman Kanak-kanak (Kindergarten)
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children’s Fund
UNICEF-EC	United Nations Children’s Fund-European Commission
USAID	United States Agency for International Development

# Introduction

## The USAID PRIORITAS Program

The United States Agency for International Development (USAID) Prioritizing Reform, Innovation, and Opportunities for Reaching Indonesia's Teachers, Administrators, and Students Project (PRIORITAS) program started to work with 20 new districts (Cohort 2 districts) in seven provinces in 2013. The table below shows the names of the provinces and districts and the number of schools receiving assistance in each district.

**Table 1. The Number of Partner Schools in Cohort 2 Districts**

Province	District	Primary		Junior Secondary		Total
		SD	MI	SMP	MTs	
Aceh	Pidie Jaya	10	6	5	3	24
	Aceh Barat Daya	12	3	6	2	23
	Aceh Utara	13	3	5	3	24
	Aceh Tamiang	13	4	5	3	25
Sumatera Utara	Langkat	12	4	6	2	24
	Toba Samosir	12	4	7	1	24
Banten	Tangerang Selatan	11	5	5	3	24
	Tangerang	12	4	4	4	24
Jawa Barat	Kuningan	12	4	6	2	24
	Cirebon	12	4	6	2	24
	Tasikmalaya	12	4	6	2	24
	Bekasi	13	3	6	2	24
Jawa Tengah	Wonosobo	12	4	6	2	24
	Pekalongan	12	4	6	2	24
Jawa Timur	Lumajang	12	4	6	2	24
	Ngawi	13	3	6	2	24
Sulawesi Selatan	Bone	12	4	6	2	24
	Parepare, Kota	12	4	6	2	24
	Takalar	12	4	6	2	24
	Tana Toraja	13	3	7	1	24
<b>Grand Total</b>		<b>244</b>	<b>76</b>	<b>117</b>	<b>43</b>	<b>480</b>

Note: SD=Sekolah Dasar (Primary School); MI=Madrasah Ibtidaiyah (Primary Islamic School); SMP=Sekolah Menengah Pertama (Junior Secondary School); MTs=Madrasah Tsanawiyah (Junior Secondary Islamic School).

The program activities in the districts focus on two levels: (i) to improve the management, governance, and funding of education at the district level, and (ii) to improve the quality of education delivered at the school level by improving management, governance, the role of the community, and teaching and learning.

## Project Monitoring and Evaluation

The project conducted the first monitoring activities in a sample of schools in the PRIORITAS districts listed above in 2013 in order to assess their needs and establish a monitoring baseline at the start of the project. The second and third rounds of monitoring were conducted in 2014 and 2015 to provide evidence of whether, and to what extent, the project had brought changes to schools. The activities took place in a sample of project partner schools and a parallel sample of non-project schools, which have been called comparison schools in this document and are used as a comparison group against which to compare the impact of project activities on partner schools.

Three major monitoring and evaluation activities that have been undertaken in 2015 in the Cohort 2 districts are as follows:

- 1. Monitoring of school management, community participation, and teaching and learning**
- 2. Student assessments in Bahasa Indonesia, Mathematics and Science (for primary and junior secondary schools)**
- 3. An Early Grades Reading Assessment (EGRA) (for grade 3)**

These three activities are reported in separate volumes. This volume concerns item 2, the student assessments in Bahasa Indonesia, Mathematics, and Science.

### An Outline of the Assessment Program

The ultimate success of the USAID PRIORITAS program must be assessed in terms of the impact on students through the improved quality of teaching and learning. However, student performance and its assessment are complex, because they encompass knowledge and understanding, skills, and attitudes. The national school examination and half-yearly tests are limited in their nature, mainly to factual recall of knowledge, in many cases, are not comparable from year to year or between different geographic areas and are subject to cheating, which has been well publicized in the press. The program has, therefore, undertaken its own student performance assessment. The assessment was matched to the objectives of the teacher training program and the government's competency-based curriculum.

The tests, which have been conducted in a total of four partner primary schools and three partner junior secondary schools in each of the 20 districts, are as follows:

<b>Primary Schools (SD and MI)</b>	<b>Junior Secondary School (SMP and MTs)</b>
Grade 4: Bahasa Indonesia (Reading and Writing)	Grade 8: Bahasa Indonesia
Grade 4: Mathematics	Grade 8: Mathematics
Grade 5: Science	Grade 8: Science

The tests were implemented in a similar number of non-partner primary and junior secondary schools in the same districts. These schools act as a comparison group, to compare between schools which have and have not received direct project interventions.

The tests used in primary schools are based on those developed under the World Bank PEQIP<sup>1</sup> and Basic Education Programs, and subsequently also used in the CLCC<sup>2</sup>, MBE<sup>3</sup> and MGP-BE<sup>4</sup> programs (see **Annex 2**). They have been used over a period of 20 years by these and other programs and have undergone revisions based on experience in using them. Tests for Bahasa Indonesia and Mathematics for junior secondary schools were developed by the MBE program and used in the DBE3<sup>5</sup> program. The science test for junior secondary schools was developed under the PRIORITAS project. Personnel from the Curriculum Development Centre and a number of teacher training universities were involved in the development and subsequent revision of the tests.

The tests have been implemented with the current cohort of students in the above classes in the same schools every other year and at the same time of the school year in order to ensure comparability. For example, the Bahasa Indonesia and Mathematics tests for primary schools were conducted in 2013 and 2015 in the same schools with the current cohort of grade 4 children at the time of testing. This report concerns the first and second round assessment of students in a sample of schools in USAID PRIORITAS partner districts and is intended to identify changes in students' performance after more than one year of project intervention at school level.

The tests also provide some evidence of the impact of the USAID PRIORITAS teacher-training program, as reflected in the development of student competencies. They measure a range of competencies and use a number of different techniques to measure these, including traditional multiple choice questions, open-ended questions and essay questions in the language tests. All the tests are compatible with the current Indonesian national curriculum. More details of each of the tests are shown in a matrix in **Annex 3**.

The written tests were developed to take not more than an hour each. The Bahasa Indonesia and Mathematics tests in both primary and junior secondary schools were conducted with half of the relevant class. Students were selected alternately to take the language and mathematics tests so that no two children sitting next to each other took the same test. The Science tests were generally conducted with a maximum of 25 randomly selected students per class. The first round of assessment took place in October and November 2013 while the second assessment took place in the same months of 2015.

When these tests have been used in previous projects, they have included word recognition and reading comprehension tests for grade I. For USAID PRIORITAS these tests have been replaced by a more comprehensive Early Grades Reading Assessment (EGRA) consisting of five or six subtests, which has been reported separately in Volume 3 of the monitoring report: 'An Assessment of Early Grade Reading - How Well Children are Reading in Cohort I Districts'.

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<sup>1</sup> PEQIP=Primary Education Quality Improvement Program (1992–1998)

<sup>2</sup> CLCC=Creating Learning Communities for Children (UNESCO-UNICEF, 1999–2010)

<sup>3</sup> MBE=Managing Basic Education (USAID, 2003–2007)

<sup>4</sup> MGP-BE=Mainstreaming Good Practices in Basic Education (UNICEF-EC, 2007–2010)

<sup>5</sup> DBE3=Decentralized Basic Education 3 Program (USAID, 2005–2011)

This report of results of the assessment is set out in three separate parts:

1. **Summary of the results and recommendations**
2. **First and second round assessment of students in primary schools**
3. **First and second round assessment of students in junior secondary schools**

Some implications and recommendations for the implementation of the USAID PRIORITAS program based on the assessment are included in the report. These have drawn on the extensive experience of the author in working with Indonesian schools and districts as well as reports from those who implemented the testing in the field. It is intended that the report will be discussed with project staff and consultants, trainers and district personnel to make them aware of the results and assess the implications for future USAID PRIORITAS activities.

### **Calculating Scores**

The total possible number of marks in each test varies (e.g., 20 for grade 4 reading, 28 for grade 4 writing, 24 for grade 4 mathematics). However, in order to avoid confusion, **all marks have been converted to percentages.**

In calculating the scores, there are two types of question. The first is a multiple choice question, the answer of which has only two values: 1 for correct answer, and 0 for wrong answer. If five students in a class of 20 could answer a question correctly, it will be reported as “25% of students could answer the question”.

The second type of questions have multiple answers and each answer can have a different score depending on how complete the answer is. For example, the first question of the Grade 5 Science Test Section B asks students to find three signs in a picture that they are provided with that a boat is traveling in a certain direction. The student who can identify at least three signs scores 3, two signs score 2, one sign scores 1, and no signs scores zero. In a class of 10 students, the highest possible score is  $10 \times 3 = 30$ . Let us say the actual total score of the students is 12, the average percentage of the (correct) students’ answer in this question is  $(12 : 30) \times 100 = 40\%$ . This does not mean that 40% of the students answer correctly, rather it means that the students could on average achieve 40% of the highest possible score of the question. In this report, this is called “the percentage of correct answers”.

This method of scoring of the second type of question can be applied in the same way to multiple choice questions as described earlier. If five students in a class of twenty correctly answer a question, it is reported that “the question has 25% correct answers.”

*Copies of the tests have not been included with this report in order to avoid their inadvertent dissemination to schools, which would make their further use unreliable. It is intended that they will be used again in the repeat testing.*

# Part I Introduction and Summary of the Results of the Tests

## I.1 Implementation of the Tests

The first round of tests was administered between October and November, 2013, in primary and junior secondary schools in each of the 20 PRIORITAS Cohort 2 partner districts, which joined the USAID PRIORITAS program in 2013. The sample of schools included four partner primary schools and four non-partner primary schools in each of the districts, a total of 160 schools (80 partner and 80 comparison primary schools). This assessment covered 25% of the project partner primary schools. The schools tested included conventional schools (SD) and religious schools (MI). The partner schools were chosen from each of two sub-districts targeted by the program. The non-partner schools were chosen to have a similar profile to the partner schools.

In addition, the tests were administered generally (see footnote below) in three partner and three non-partner junior secondary schools in each of the 20 districts, a total of 120 schools (a total of 56<sup>6</sup> partner and 60 comparison junior secondary schools). This is 35% of the project partner junior secondary schools. The schools tested included in general two partner conventional schools (SMP) and one partner religious school (MTs) in each district and a similar number of non-partner schools. The partner schools were chosen from each of the sub-districts targeted by the program.

## I.2 How the Results are Presented

The results of the tests in two rounds of assessment are discussed in part 2 of the report (primary schools) and part 3 (junior secondary schools) for each subject separately. The overall average score is given and comparative scores disaggregated for boys and girls. The average scores of higher and lower achieving groups of students are also presented by quartile.

The primary schools scores are also disaggregated between (i) those students who have attended pre-school/kindergarten education (Taman Kanak-kanak [TK]) and those who have not, and (ii) conventional primary schools (SD) and religious primary schools (MI), (iii) state and private schools. A breakdown of the scores on individual questions is presented on the mathematics and science tests and for each section of the science test.

The junior secondary school scores are also disaggregated between (i) conventional junior secondary schools (SMP) and religious junior secondary schools (MTs) and (ii) state and private schools. A breakdown of the scores on individual questions is presented on the mathematics and science tests and for each section of the science test.

It needs to be stressed that only a maximum of eight primary schools and six junior secondary schools in each district were included in the test. Results of the tests from individual schools in two rounds of assessment are included in **Annex I**, but should not be viewed as being a representative sample of the districts' schools.

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<sup>6</sup> Students from 60 junior secondary schools were assessed during the baseline monitoring. However, four of these schools have ceased to be partner schools. As a result, only 56 schools were assessed during the midline survey. The data from the baseline survey has been adjusted by the removal of the data from the four schools so that it matches the midline survey.

### 1.3 Summary of Results in Primary Schools (SD and MI)

The schools tested in the 20 districts included 60 partner conventional primary schools (SD) and 20 partner religious primary schools (MI). The comparison group of schools included 62 conventional primary schools (SD) and 18 religious primary schools (MI). A total of approximately 1,200 students in 2013 were involved in each test for each of the partner and comparison schools. The number of students taking the Science test was considerably higher in 2015 (1,494 in partner schools and 1,486 in comparison schools) because some provinces preferred to administer the test to all the students in a class rather than limit to 25 students. Table 2 gives a summary of the results of each test.

**Table 2. Summary of Test Results for All Tests in Primary Schools**

	Year	Grade 4		Grade 4		Grade 4		Grade 5		
		Reading Comp Test (%)		Writing Test (%)		Mathematics Test (%)		Science Test (%)		
		P	C	P	C	P	C	P	C	
N Student Tested	2013	1,183	1,164	1,183	1,164	1,209	1,159	1,432	1,388	
	2015	1,189	1,192	1,189	1,192	1,273	1,265	1,494	1,486	
Gender	Boys	2013	34.4	34.5	35.2	29.4	36.8	34.9	33.1	32.8
		2015	50.1	44.8	42.6	33.9	44.1	41.4	40.8	38.0
	Girls	2013	39.7	39.2	42.0	37.7	41.4	38.8	34.6	34.1
		2015	56.4	53.1	51.2	46.1	49.6	43.6	43.1	41.1
Attend Pre-School - TK	Attend	2013	39.1	39.4	40.4	36.9	40.1	39.0	35.5	35.2
		2015	55.3	50.5	48.6	41.7	48.1	43.9	42.8	41.3
	Not Attend	2013	29.0	27.1	31.4	20.5	34.5	28.8	27.3	27.0
		2015	41.8	40.5	38.3	30.6	39.4	32.8	36.6	30.9
School Type	Secular	2013	38.7	36.6	40.7	32.4	40.9	37.1	35.6	33.9
		2015	54.8	48.8	47.9	40.0	48.2	42.4	42.6	39.7
	Religious	2013	32.4	37.7	32.4	37.3	33.6	36.3	28.1	31.8
		2015	49.0	49.2	44.7	39.9	43.1	42.6	39.9	38.9
School Status	Public	2013	36.8	36.0	37.9	31.7	38.5	36.2	33.2	32.8
		2015	53.3	48.1	47.0	39.1	46.9	41.7	41.1	39.2
	Private	2013	38.8	41.6	42.9	43.4	42.8	40.6	37.6	37.4
		2015	54.1	53.4	48.2	44.7	47.3	47.0	47.5	41.3
Average	2013	37.1	36.9	38.7	33.5	39.2	36.9	33.8	33.4	
	2015	53.4	48.9	47.1	39.9	47.0	42.4	42.0	39.6	
% increase in scores 2013-15		43.9 <sup>7</sup>	32.5	21.8	19.2	20.0	15.1	24.1	18.3	

P=Prioritas Partner School, C=Comparison School

The summary of results in Table 2 shows that average scores in both partner and comparison school increased on all the tests. They further show that the scores in the partner schools increased by a greater percentage than in the comparison schools on all the tests. The increase in scores in the comparison schools can be partly explained by the results of the midline monitoring of the schools, which shows that 50% of the teachers in the comparison schools had already received some training in active learning either from the project or through dissemination training conducted by the district.

<sup>7</sup> The increase in scores is calculated by dividing the percentage increase in score between 2012 and 2014 by the original score in 2012. For example an increase in score from 40% to 44% would be shown as a 10% increase. The scores in the table are rounded to the nearest whole number, but the increases have been calculated based on the unrounded scores.

**Grade 4 Bahasa Indonesia Test:** Scores in partner schools increased by 43.9% and 21.8% respectively on the reading and writing tests, while comparison schools' scores also increased by 32.5% and 19.2% respectively between 2013 and 2015.

The analysis of the writing test shows that, despite the improvements in average scores, many grade 4 children in USAID PRIORITAS schools still have difficulty in communicating ideas in a coherent and legible manner, since only 27% of students wrote half a page or more and only 16% presented their ideas well (classed as good or very good). The children who wrote nothing in 2015 declined from 14% to 12% in partner and 20% to 18% in comparison schools.

**Grade 4 Mathematics Test:** Scores in partner schools increased by 18.7% in partner schools and 15.1% in comparison schools between 2013 and 2015. Areas in which students had particular difficulties did not change from 2013 to 2015. These included recognizing the value of both decimal and simple fractions and operations with decimal fractions. Students also scored very low on questions that required problem solving and creativity in their answers.

**Grade 5 Science Test:** Scores in partner schools increased by 23.9% in partner schools and 18.3% in comparison schools between 2013 and 2015. Children found the traditional format of questioning (with multiple choice answers) in Section A easier than in Section B, which required them to make deductions and apply concepts which they have learned.

**Comparisons Between Different Groups:** In both 2013 and 2015, on all tests, girls scored higher than boys, considerably so in all tests except science, where scores were much closer. Scores of children who attended TK (pre-school) were substantially higher than those who had not. From observations at school level it appears that many children who have attended TK enter primary school already having mastered some of the basics of literacy and numeracy, which gives them a significant advantage over the length of their school career. Average scores at SD were considerably higher than at MI in all tests in 2013. However in 2015 the MI have largely caught up with the SD on the reading and writing tests. State schools (secular and madrasah) scored lower than private schools on all the tests in 2013 and 2015.

**Differences Between Schools:** There were large differences in scores between schools. For example, on the reading test the highest average score was 76% and the lowest 11%, in mathematics the highest school average score was 72% and the lowest 8%. While some differences can be explained by different student intakes, the largest reason for the differences must lie with the quality of teaching.

During the second assessment in 2015 the differences in reading scores became smaller with the highest having an average of 80% and the lowest 15%. In the writing test, the highest score was 74% and the lowest was 6%. In mathematics, the highest school average score was 80% and the lowest was 9%.

A table comparing the results from the USAID PRIORITAS, MGMP-BE, and MBE programs is presented in **Annex 2**.

## I.4 Summary of Results in Junior Secondary Schools (SMP and MTs)

The baseline student assessments took place between October and November, 2013, in 60 partner schools (42 SMP and 18 MTs) and 60 comparison schools (44 SMP and 16 MTs) in the 20 PRIORITAS partner districts. That was 3 partner and 3 comparison schools in each district. The midline assessments took place in October and November 2015 in only 56 partner schools (41 SMP and 15 MTs) and the same 60 comparison schools. The reduction of the number of partner schools was because four schools ceased to be partner schools. The data from the baseline survey has been adjusted by the removal of the data from the four schools so that it matches the midline survey.

Over 950 students were tested overall in each group for each subject. Table 3 gives a summary of the results of each test. The results for each school can be found in *Annex I*.

**Table 3. Summary of Test Results for All Tests in Junior Secondary Schools**

	Year	Grade 8 Reading Comp Test (%)		Grade 8 Writing Test (%)		Grade 8 Mathematics Test (%)		Grade 8 Science Test (%)		
		P	C	P	C	P	C	P	C	
		N Student Tested	2013	964	999	964	999	1,010	1,010	1,009
	2015	952	1,040	952	1,040	927	1,008	950	979	
Gender	Boys	2013	64.2	61.4	45.3	38.6	33.1	31.0	40.6	36.7
		2015	67.6	67.1	43.4	41.2	37.6	35.9	42.3	40.9
	Girls	2013	68.2	65.6	54.5	47.3	35.2	33.4	39.1	36.0
		2015	71.4	69.9	55.2	51.3	37.6	35.3	42.4	40.4
School Type	Secular	2013	67.0	63.7	51.9	43.5	36.6	31.8	41.7	36.0
		2015	70.4	68.6	50.7	46.3	38.5	35.3	42.8	40.2
	Religious	2013	65.2	63.9	47.6	43.2	28.8	34.0	35.5	37.3
		2015	67.7	68.8	47.5	48.1	35.6	36.2	38.9	39.8
School Status	Public	2013	66.5	64.3	50.3	42.7	34.3	33.1	39.8	36.7
		2015	69.8	68.5	49.8	46.1	37.6	36.2	41.3	39.9
	Private	2013	67.1	60.1	54.7	47.4	33.4	28.0	39.2	34.1
		2015	67.3	69.3	49.7	50.2	37.6	32.1	45.4	40.9
Average	2013	66.5	63.7	50.6	43.4	34.3	32.3	39.3	36.3	
	2015	69.6	68.6	49.8	46.7	38.1	35.4	42.1	41.1	
% increase in scores 2013-15			4.6	7.7	-1.7	7.7	11.1	9.8	7.2	13.2

P=PRIORITAS Partner School, C=Comparison School

The summary of results in Table 3 shows that average scores in both partner and comparison school increased on all the tests, except the writing test. They further show that the scores in the partner schools increased by a greater percentage than in the comparison schools only in mathematics, while in the other three tests, the scores in comparison schools are higher.

The increase in scores in the comparison schools can be partly explained by the results of the midline monitoring of the schools, which shows that 50% of the teachers in the comparison schools had already received some training in active learning either from the project or through dissemination training conducted by the district.

**Bahasa Indonesia Test:** Scores in partner schools increased by 4.6% in the reading test but decreased by 1.7% in the writing test, while comparison schools' scores increased by

7.7% in both reading and writing between 2013 and 2015. Over 70% of students in partner schools expressed good ideas and most of these were able to write neatly in sentences and punctuate their work quite well. The reason for the decrease in scores in the partner schools on the writing test is not clear and is subject to further investigation.

**Mathematics Test:** Scores in partner schools increased by 11.1% in partner schools and 9.8% in comparison schools between 2013 and 2015. Students found considerable difficulty with questions which involved problem solving and had to be worked in two or more stages (i.e. solving one part of the problem first and then using the answer from that part of the problem to solve the whole problem).

**Science Test:** Scores in partner schools increased by 7.2% in partner schools and 13.2% in comparison schools between 2013 and 2015. Students remained relatively weak in areas where they had to reason or make deductions from data. They also seem not to have acquired measuring skills through practical work. For example, they had difficulty in reading measurements off a ruler and reading weighing scales and measuring cylinders. They also had a weak knowledge of technical terms and difficulty in applying concepts to everyday situations.

**Comparisons Between Different Groups:** Girls performed considerably better than boys in the Bahasa Indonesia reading and writing tests. In mathematics and science test, however, the differences are very small. There was small difference in reading and writing scores between students from SMP and MTs in 2015. It should be remarked that most of the MTs in the project are state MTs, which are relatively well resourced.

**Differences Between Schools:** There were wide differences in average scores between schools in every subject, indicating that students are learning much better in some schools than in others. In some cases there will be mitigating social and economic circumstances. However, it is noticeable that within many schools, some rate relatively well in one subject and poorly or very poorly in another (see **Annex I** for a complete list of school scores). This suggests variable quality in the teaching within the same school.

## **1.5 Implications and Recommendations for USAID PRIORITAS**

### **A. General**

The implications and recommendations from the baseline student assessment are being addressed through USAID PRIORITAS teacher training, but still remain valid and worth repeating in this midline report. These are:

- The better scores achieved by children who have attended kindergarten (TK) suggest that district should prioritize the provision of pre-school education. It is important, however, for districts to make sure that teachers are well trained to help children make the best of their TK opportunity.

### **B. Bahasa Indonesia**

- A problem reported from a number of primary schools was a lack of mastery of Bahasa Indonesia. Schools which appear to have similar backgrounds show different levels of success in helping their students to master the language. Previous experience has shown that this is often dependent on the will and commitment of teachers and that local

government and especially school supervisors and principals can do much to promote the use of Bahasa Indonesia in their schools.

- It is evident that many grade 4 children in USAID PRIORITAS schools have difficulty in comprehending meaning in what they read and in communicating ideas in a coherent and legible manner. From observations in many schools around the country language teaching focuses too narrowly on the mechanics of reading (often barking at print) and writing is confined largely to copying words and sentences or filling in words in sentences from the text book or presented by the teacher.
- In line with the competency-based curriculum, Bahasa Indonesia training should focus on developing students' language skills. Teachers should be trained to give their students opportunities to write for a variety of purposes including reporting facts and events, writing instructions and expressing their feelings and opinions. Children also need to be given the opportunity and taught to read for different purposes including for enjoyment, finding information, and to reflect on and report back on what they have read.
- Teachers need to give their students the opportunity to develop their speaking and listening skills by giving them the opportunity to discuss a variety of issues and problems. Speaking and listening can and should often be linked to reading and writing activities, with students being invited to discuss and comment on what they read and to discuss ideas before they begin to write. They should also be given the opportunity to read and give feedback on each other's work.
- Teaching should pay attention to handwriting, spelling and punctuation, which need to be taught regularly and systematically and appear to have been neglected in many schools. While punctuation and spelling should be introduced through special lessons, they need to be reinforced through the children's own writing. Children need to be encouraged to get into the habit of re-reading their own writing and correcting spelling, punctuation and other errors.
- *USAID PRIORITAS is addressing the issues of reading comprehension by training teachers of all grades to develop student comprehension skills and to do so across all subjects.*
- *USAID PRIORITAS is addressing these issues of student writing by training teachers of all grades to teach students to write expressing their own thoughts and opinions in a variety of ways and for a variety of purposes.*

### **C. Mathematics**

- Experience in Indonesia has shown that mathematics is generally poorly taught. Many teachers have a poor understanding of the concepts they are teaching and tend to teach rules and procedures for doing mathematical operations rather than cultivating an understanding of the concepts. As a result students have difficulty applying the concepts and using mathematics as a tool for solving problems.
- Training for teachers should focus on helping both teachers and students to gain an understanding of mathematical concepts, especially by relating them to real situations in areas such as number, measurement, geometry and graphical representation.

- Teachers should be encouraged to adopt “problem solving” approaches to teaching mathematics, which also encourage creativity and develop understanding. This can include children being asked to think of a variety of answers to open-ended problems, being asked to make up their own questions for other children to answer, and being asked to make up a variety of questions which will result in the same answer (e.g., How many questions can you make with the answer “20”? How many different shapes can you make with an area of  $24\text{cm}^2$ ?).
- *USAID PRIORITAS is training teachers to use more problem solving and open-ended approaches to teaching mathematics in order develop concepts more fully and help students apply these concepts in real life situations.*

#### **D. Science**

- Science teaching focuses too much on the memorization of rules and concepts and too little on developing understanding and applying concepts. Too little practical work takes place to support science teaching. Students spend much of their time memorizing information from books rather than developing scientific skills such as measuring, observing real phenomena, data analysis, making hypotheses and drawing conclusions.
- Teacher training should focus on developing students’ scientific skills based on the observation of the real environment and doing experiments to investigate natural phenomena. Training should include helping students to make systematic reports on the experimental and observational work they undertake. Simple technology activities should be promoted to encourage students to apply scientific concepts in real situations.
- *USAID PRIORITAS is training teachers to teach students using observation and experiments and to focus of developing scientific skills of observation, data collection analysis and reporting.*

## Part 2 First and Second Rounds of Assessment of Students in Primary Schools

The first students' assessment took place between October and November, 2013, in 80 project partner and 80 comparison schools. Details of the schools are set out on Table 4. The second assessment took place in the same months two years later (2015) in the same schools.

**Table 4. Details of Primary Schools Tested**

Province	SD				MI				Total	
	Public		Private		Public		Private			
	P	C	P	C	P	C	P	C	P	C
Aceh	12	12	-	-	4	4	-	-	16	16
North Sumatra	4	4	1	-	-	-	3	4	8	8
Banten	5	5	1	1	-	-	2	2	8	8
West Java	6	6	-	-	1	1	1	1	8	8
Central Java	5	7	1	-	2	1	-	-	8	8
East Java	13	15	-	-	2	-	1	1	16	16
South Sulawesi	12	12	-	-	2	1	2	3	16	16
<b>Grand Total</b>	<b>57</b>	<b>61</b>	<b>3</b>	<b>1</b>	<b>11</b>	<b>7</b>	<b>9</b>	<b>11</b>	<b>80</b>	<b>80</b>

P=PRIORITAS partner school, C=Comparison School

The results are reported below by subject, together with the implications and recommendations for USAID PRIORITAS.

### 2.1 Bahasa Indonesia Grade 4

#### 2.1.1 Introduction

Traditional Bahasa Indonesia tests assess knowledge of the Indonesian language rather than children's functional language skills although the new curriculum emphasizes the development of all four language skills. This particular test focused on skills and was divided into two parts. The first part, reading comprehension, tests children's ability to read an extended piece of writing with understanding. The second part, story writing, tests children's ability to extract ideas from a picture and, using their imagination, to produce a story based on that picture. The final score for writing was a composite of five scores for the different skills of handwriting, spelling, punctuation, length of the written piece and the quality of language used.

#### 2.1.2 The Results

Table 5 (on next page) shows the average scores obtained in the two tests.

**Table 5. Participant Data and Average Scores in Grade 4 Reading and Writing Tests in 2013 and 2015**

		Year	Partner School				Comparison School			
			Student Tested		Grade 4		Student Tested		Grade 4	
			n	%	Reading	Writing	n	%	Reading	Writing
Gender (%)	Boys	2013	573	48.4	34.4	35.2	584	50.2	34.5	29.4
		2015	568	47.8	50.1	42.6	604	50.7	44.8	33.9
	Girls	2013	610	51.6	39.7	42.0	580	49.8	39.2	37.7
		2015	621	52.2	56.4	51.2	588	49.3	53.1	46.1
Pre School (TK)	Attended	2013	952	80.5	39.1	40.4	924	79.4	39.4	36.9
		2015	1,020	85.8	55.3	48.6	1,003	84.1	50.5	41.7
	Did Not Attend	2013	231	19.5	29.0	31.4	240	20.6	27.1	20.5
		2015	169	14.2	41.8	38.3	189	15.9	40.5	30.6
School Type	Secular	2013	893	75.5	38.7	40.7	893	76.7	36.6	32.4
		2015	904	76.0	54.8	47.9	916	76.8	48.8	40.0
	Religious	2013	290	24.5	32.4	32.4	271	23.3	37.7	37.3
		2015	285	24.0	49.0	44.7	276	23.2	49.2	39.9
School Status	Public	2013	1,003	84.8	36.8	37.9	982	84.4	36.0	31.7
		2015	1,048	88.1	53.3	47.0	1,021	85.7	48.1	39.1
	Private	2013	180	15.2	38.8	42.9	182	15.6	41.6	43.4
		2015	141	11.9	54.1	48.2	171	14.3	53.4	44.7
Average	2013	1,183	100.0	37.1	38.7	1,164	100.0	36.9	33.5	
	2015	1,189	100.0	53.4	47.1	1,192	100.0	48.9	39.9	
% increase in scores 2013-2015				43.9	21.8			32.5	19.2	

Scores in partner schools increased by 43.9% and 21.8% respectively on the reading and writing tests, while comparison schools' scores increased by 32.5% and 19.2% respectively between 2013 and 2015. (See the last row of Table 5).

Table 6 presents the gap between the highest and lowest average scores in reading and writing. During the first assessment in partner schools, there were large differences between individual schools with the highest having an average student score of 64% and the lowest 6% on the reading test and the highest 73% on the writing test compared to 0% for the lowest. During the second assessment, the differences in reading scores became wider with the highest having an average of 84% and the lowest 16%. In the writing test, the highest score was 75% and the lowest was 3%. The big gap between the highest and the lowest scores reflects the big gap in the quality of teaching reading and writing between the schools. The condition is more or less the same in comparison schools.

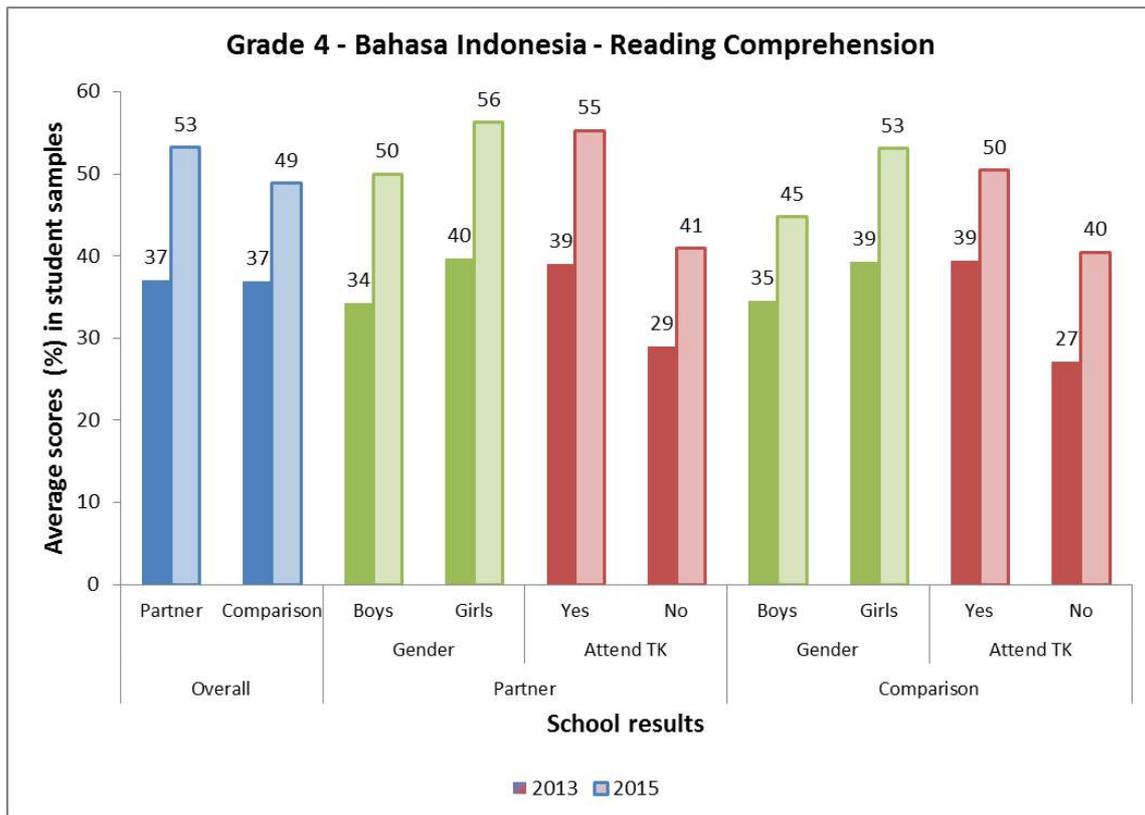
**Table 6. Grade 4 Lowest and Highest Average Scores in Reading and Writing**

Test		Partner		Comparison	
		2013	2015	2013	2015
Reading	Lowest	6%	16%	8%	19%
	Highest	64%	84%	72%	81%
Writing	Lowest	0%	3%	1%	6%
	Highest	73%	75%	65%	74%

### 2.1.3 Reading

The results disaggregated by various grouping are shown in Charts 1 and 2. All groups in the partner schools showed increased scores in the second round of testing. Girls continued to score considerably higher than boys in the reading test and children who had attended TK (pre-school) scored substantially higher than those who had not. Students in SD (secular primary schools) continued to score higher than MI (religious primary schools) and students in private schools scored slightly higher than state schools.

**Chart 1. Reading Comprehension by Gender and Pre-School**



**Chart 2. Reading Comprehension by School Type and School Status**

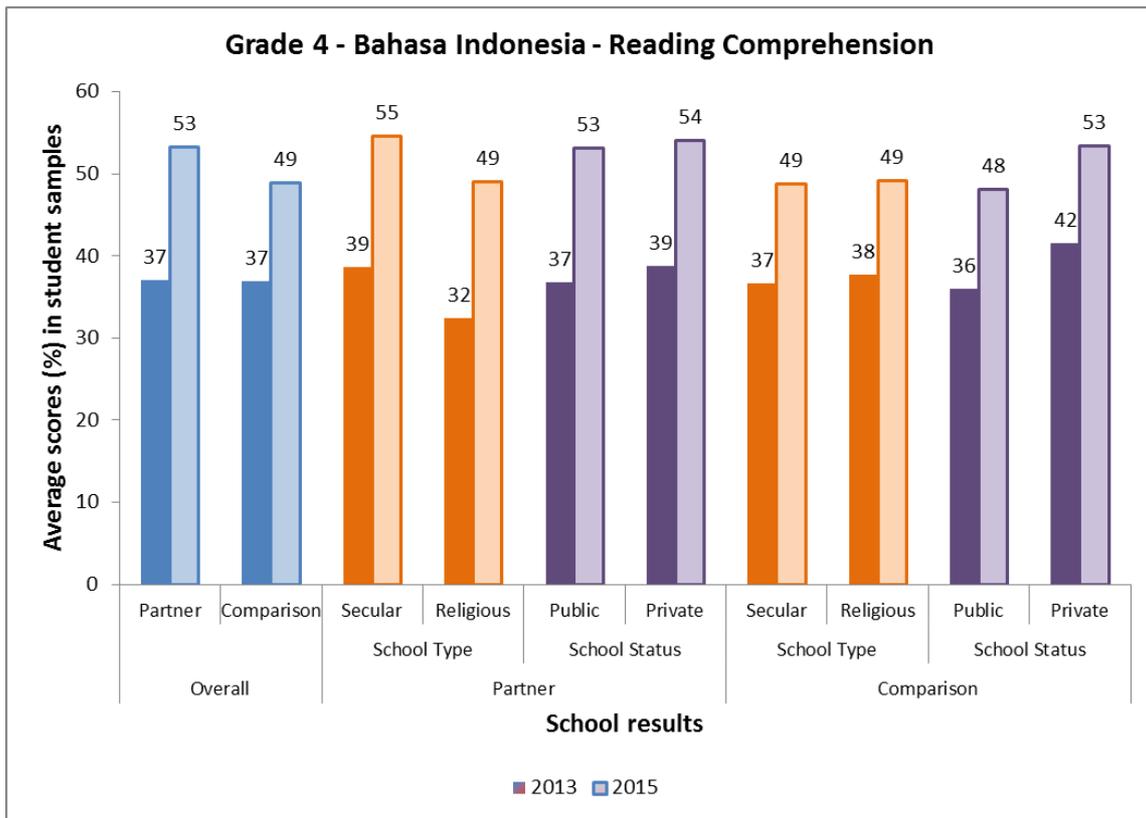
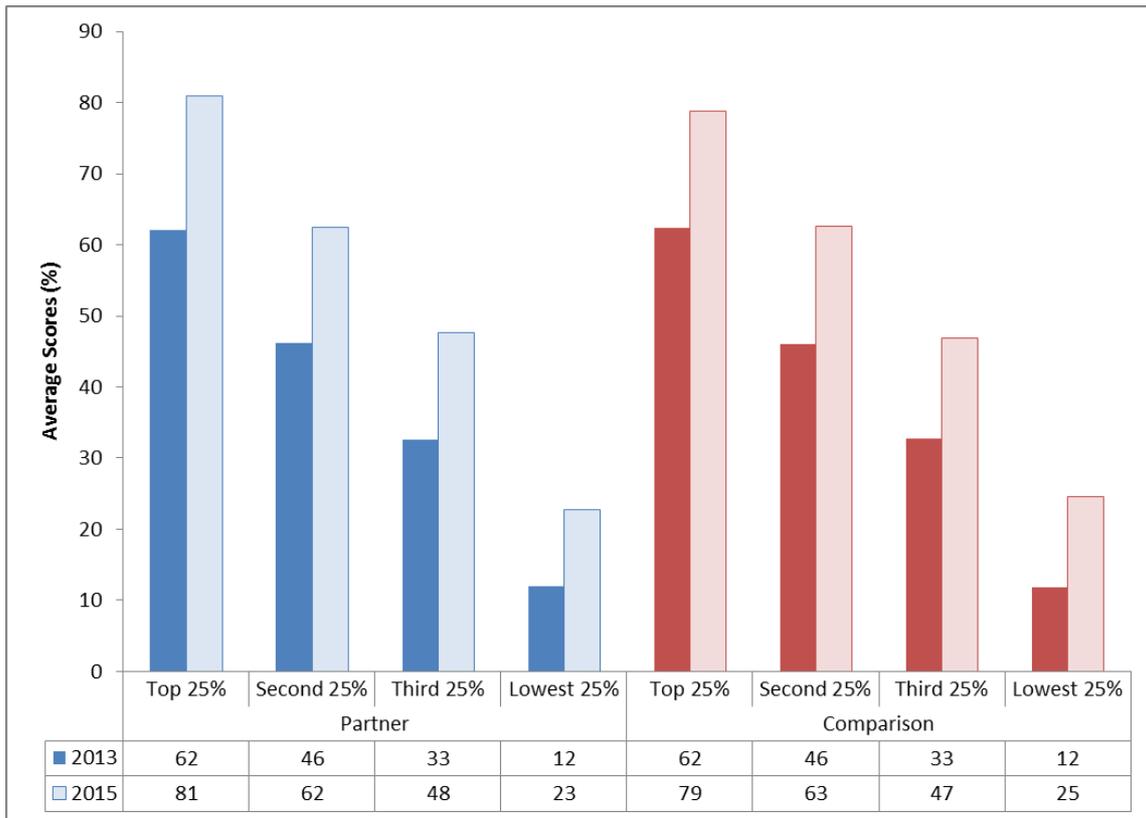


Chart 3 shows the average score per quartile. During the first assessment, the top quartile in partner and comparison schools scored 62%; whereas the lowest scored 12%. Data from the second assessment indicated increases in all four quartiles with the highest increase in the highest quartile of both partner and comparison schools. This indicates that the improvement of test scores took place in all four quartiles and the biggest improvement took place in the highest quartile.

**Chart 3. Average Scores (in Percentages) by Quartile in Reading Comprehension Test**



The test was divided into three sections. Section A gave multiple choices of words to complete sentences about a reading passage. Section B required the students to evaluate whether statements about the passage were true or false, while Section C required students to deduce information from or attempt to explain what they had read. As can be seen from Table 7 below, the students found Section C.

Data from second assessment indicate that there had been an increase of percentages in all three sections of the tests and a big improvement in Section C where the average partner school score more than doubled from 20% to 41%.

**Table 7. Scores by Section**

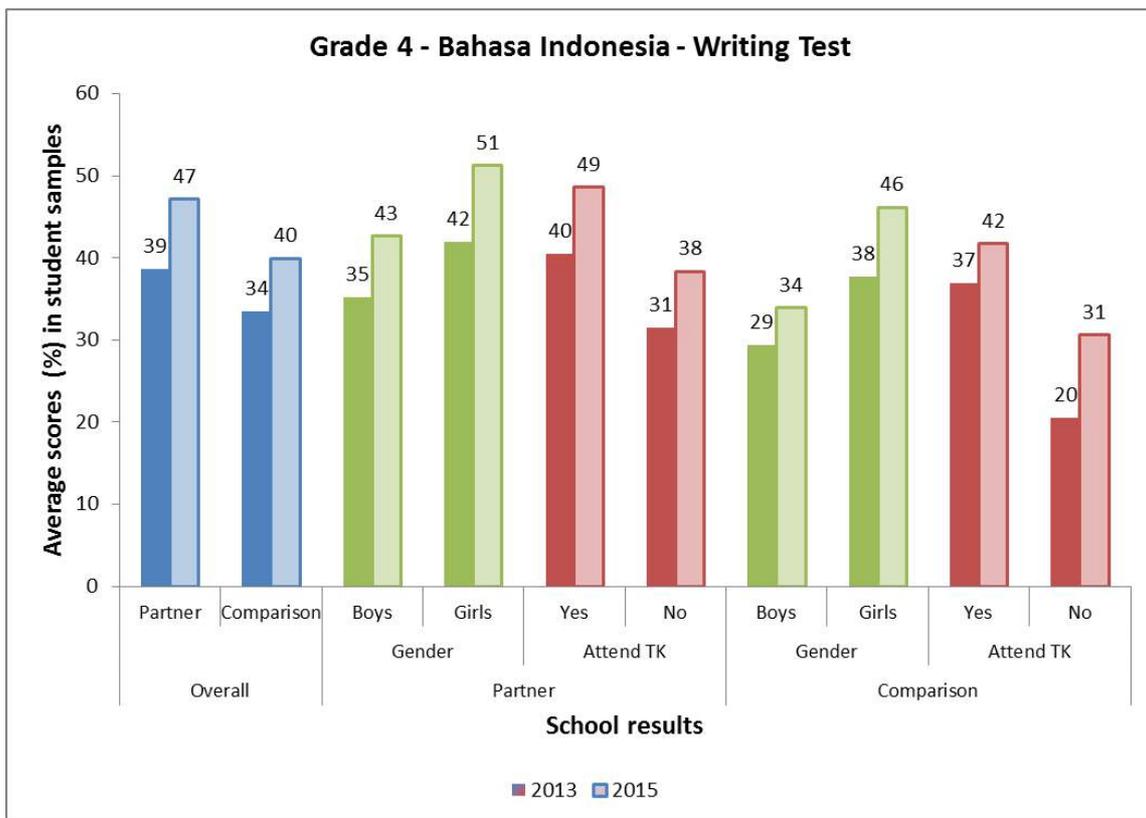
Section	% Correct			
	Partner		Comparison	
	2013	2015	2013	2015
Section A	54	65	55	62
Section B	59	68	59	68
Section C	20	41	19	34
<b>Total</b>	<b>37</b>	<b>53</b>	<b>37</b>	<b>49</b>

### 2.1.4 Writing

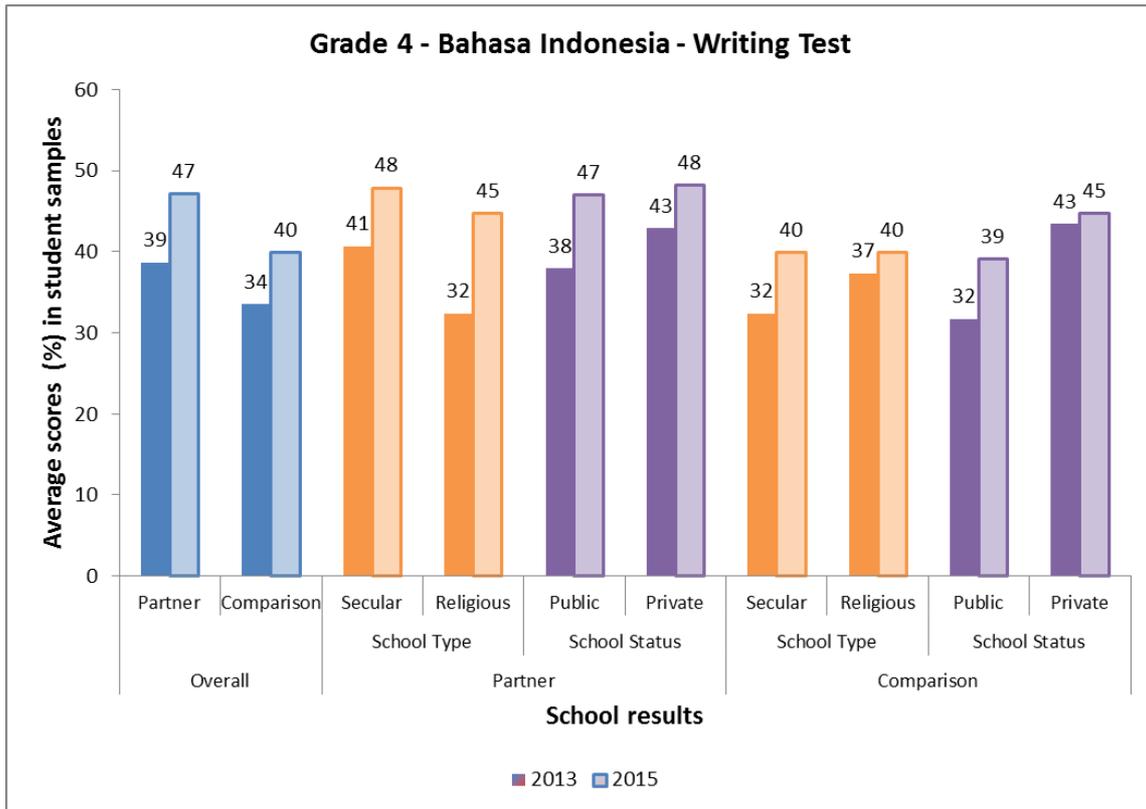
The results disaggregated by various grouping are shown in Charts 4 and 5. All groups in the partner and partner schools showed increased scores in the second round of testing.

In the writing test girls continued to achieve considerably higher scores than boys. Children who had attended kindergarten scored much higher than those who had not. Students in partner MI showed especially large increases in average scores but secular schools still had higher scores both during the baseline and midline monitoring. Private schools outscored their state counterparts in the first and second round of testing.

**Chart 4: Writing Test by Gender and Pre-School**



**Chart 5. Writing Test by School Type and School Status**



The writing test was assessed according to five elements: handwriting, spelling, punctuation, length, and the quality of the writing. The weighting in the overall score was for handwriting (15%), spelling (15%), punctuation (15%), length (20%), and quality of the writing (35%).

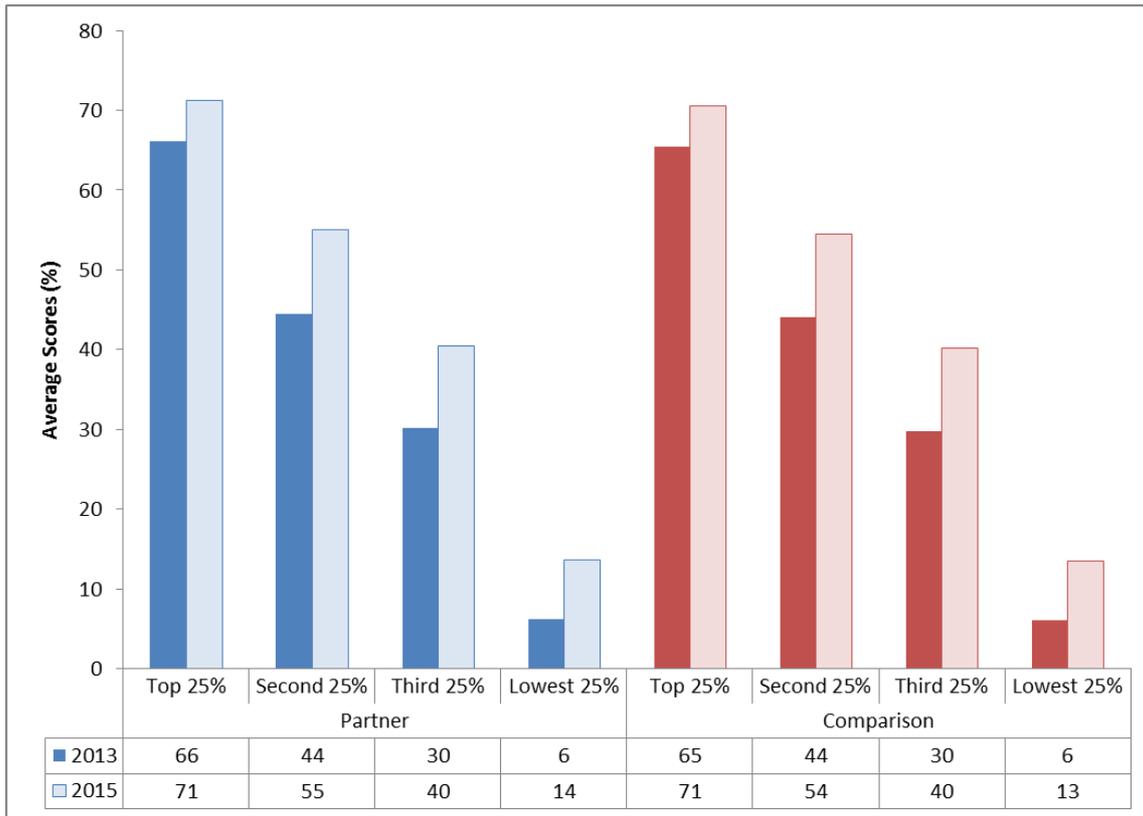
Table 8 also presents the results of the first and second assessment. If we combine the percentages of the first two categories of the five elements (e.g. ‘good joined’ and ‘good printed’ in Handwriting; ‘perfect’ and ‘good’ in Spelling), it is very clear that the results of student writing assessment in the second assessment was better than the first assessment in all five elements. The percentage of students with ‘no score’ also dropped considerably in the second round of assessment.

**Table 8. Percentage Scores for Elements of Written Work in Writing Test**

Handwriting						
Treatment	Year	Good Joined	Good Printed	Poor		No Score
Partner	2013	9	47	30		14
	2015	12	56	22		10
Comparison	2013	6	41	29		24
	2015	9	49	27		15
Spelling						
Treatment	Year	Perfect	Good	Poor		No Score
Partner	2013	4	30	49		18
	2015	8	49	31		11
Comparison	2013	3	27	40		30
	2015	6	38	38		18
Punctuation						
Treatment	Year	Perfect	Good	Poor		No Score
Partner	2013	4	21	47		29
	2015	6	38	38		17
Comparison	2013	3	17	40		39
	2015	5	25	39		31
Length of Written Work						
Treatment	Year	> 1 Page	Half Page	>2 Sentences	<2 Sentences	No Writing
Partner	2013	4	23	43	16	14
	2015	5	31	41	12	12
Comparison	2013	5	19	35	21	20
	2015	3	24	39	16	18
Quality						
Treatment	Year	Very Good	Good	Fair	Poor	No Writing
Partner	2013	1	11	26	49	14
	2015	1	15	41	31	12
Comparison	2013	0	8	22	50	20
	2015	0	10	36	36	18

Chart 6 shows the average score per quartile. During the baseline, the top 25% of students in partner schools scored, on average, 66%, and comparison schools scored 65%; whereas the lowest 25% of students in both partner and comparison schools scored, on average, 6%. During the second assessment, all four quartiles show some improvement with the second and the third had the biggest improvement, both in partner and comparison schools. It means that the all four quarters contributed to the changes that took place in writing test during the second assessment, and the second and third quartiles have shown more improvement relative to the highest and lowest quarters.

**Chart 6. Average Scores (%) by Quartile in Writing Test.**



### 2.1.6 Implications and Recommendations for USAID PRIORITAS

- It is evident that many grade 4 children in the schools tested have difficulty in comprehending meaning in what they read and in communicating ideas in a coherent and legible manner. Mastery of language is the key to success across the curriculum and, in many cases, in later life. This highlights the importance of training in the teaching of Bahasa Indonesia. From observations in many schools around the country, language teaching focuses too narrowly on the mechanics of reading (often barking at print) and writing is confined largely to copying words and sentences.
- Language teaching should pay attention to handwriting, spelling and punctuation, which need to be taught regularly and systematically. This approach appears to have been neglected in many schools. While punctuation and spelling should be introduced through special lessons, they need to be reinforced through the children’s own writing. Children need to be encouraged to get into the habit of re-reading their own writing and correct spelling, punctuation and other errors.
- *The emphasis in USAID PRIORITAS teacher training is on improving students’ communication skills, including the ability to get meaning from what they hear and read and to communicate their own ideas better in both spoken and written form. This includes the ability to communicate for different purposes to different audiences by the introduction of appropriate text types.*

## 2.2 Mathematics Test Grade 4

### 2.2.1 Introduction

The mathematics test was revised substantially in 2004 compared to the original test used in PEQIP and the World Basic Education Projects in order to give a greater emphasis on testing children's understanding and their problem solving capabilities.

### 2.2.2 The Results

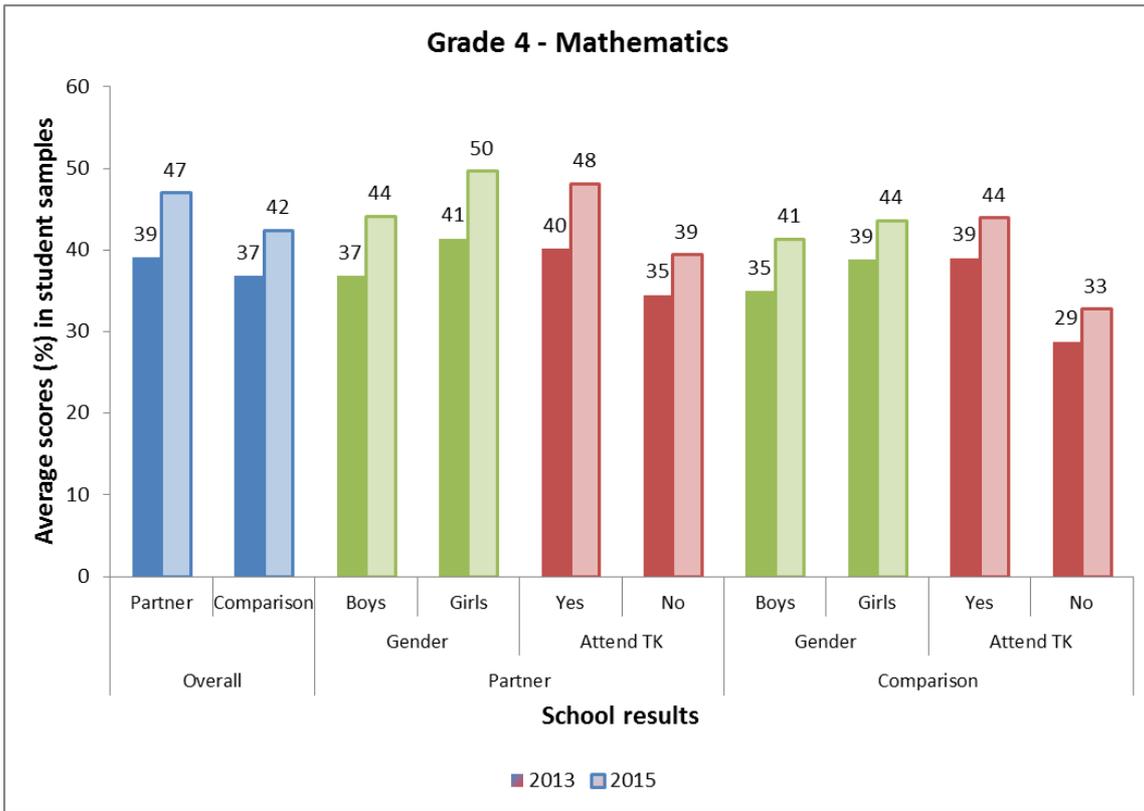
Table 9 shows that during the baseline assessment, average scores on the mathematics test was 39.3% for partner schools and 36.9% for comparison schools. Boys scored slightly lower than girls on the test. Children who attended kindergarten (TK) scored substantially higher than those who had not. Students attending SD also scored considerably higher than those attending MI. State schools scored considerably higher than private schools in partner districts and slightly lower in comparison districts.

**Table 9. Participant Data and Average Scores in Mathematics Test**

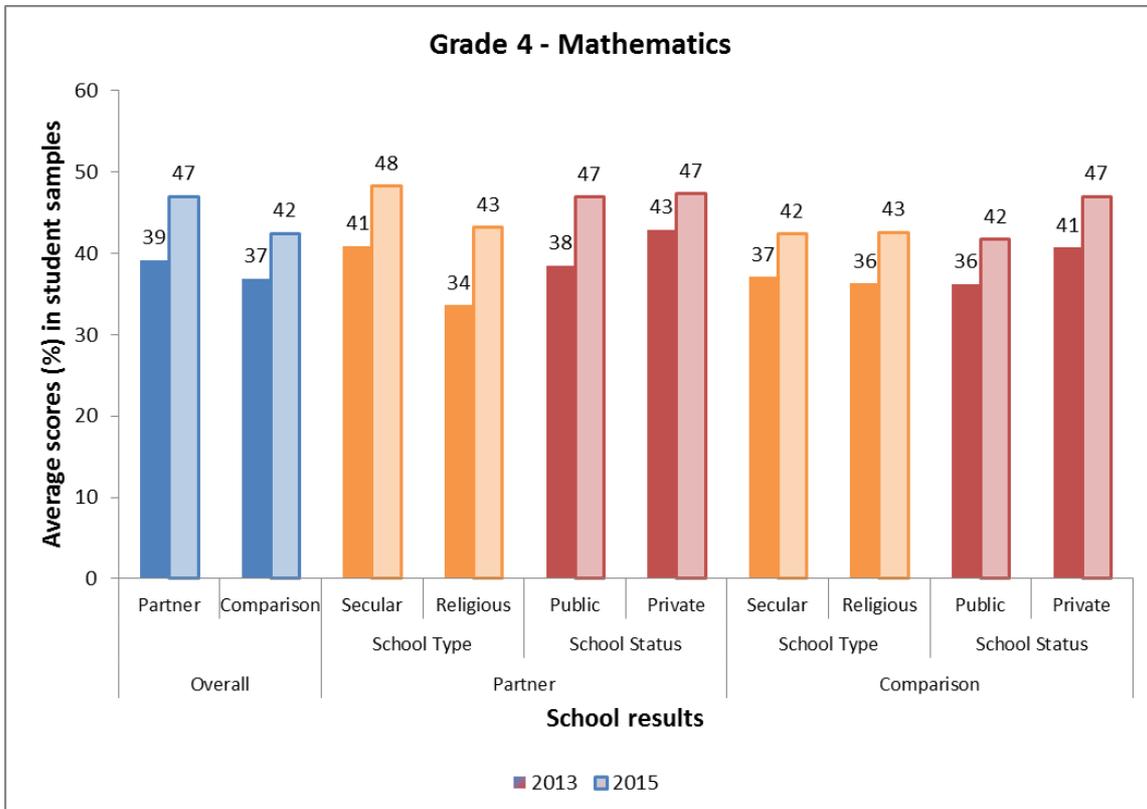
		Year	Partner School			Comparison School		
			Student Tested		Score	Student Tested		Score
			n	%		n	%	
Gender (%)	Boys	2013	589	49.3	37.0	578	49.9	34.9
		2015	603	47.9	43.9	653	51.6	41.4
	Girls	2013	605	50.7	41.7	581	50.1	38.8
		2015	655	52.1	49.3	612	48.4	43.6
Pre School (TK)	Attended	2013	988	82.7	40.3	915	78.9	39.0
		2015	1,095	87.0	47.8	1,095	86.6	43.9
	Did Not Attend	2013	206	17.3	34.6	244	21.1	28.8
		2015	163	13.0	39.4	170	13.4	32.8
School Type	Secular	2013	910	76.2	41.1	892	77.0	37.1
		2015	947	75.3	47.9	977	77.2	42.4
	Religious	2013	284	23.8	33.6	267	23.0	36.3
		2015	311	24.7	43.1	288	22.8	42.6
School Status	Public	2013	1,011	84.7	38.7	979	84.5	36.2
		2015	1,098	87.3	46.6	1,089	86.1	41.7
	Private	2013	183	15.3	42.8	180	15.5	40.6
		2015	160	12.7	47.3	176	13.9	47.0
Average		2013	1,194	100.0	39.3	1,159	100.0	36.9
		2015	1,258	100.0	46.7	1,265	100.0	42.4
		% increase in scores 2013-2015			18.7			15.1

During the second assessment, there were significant increases of percentages in all categories of the three disaggregating variables (gender, pre-school attendance, and school type). The trends are similar as in the first assessment: Girls, children attending kindergarten, students in secular schools, and in private schools had higher scores than boys, children not attending kindergarten, and students in religious schools. Just as in the baseline assessment, the public partner schools had lower scores than private schools. Charts 7 and 8 shows the results in graphical form.

**Chart 7. Mathematics by Gender and Pre-School**



**Chart 8. Mathematics by School Type and School Status**



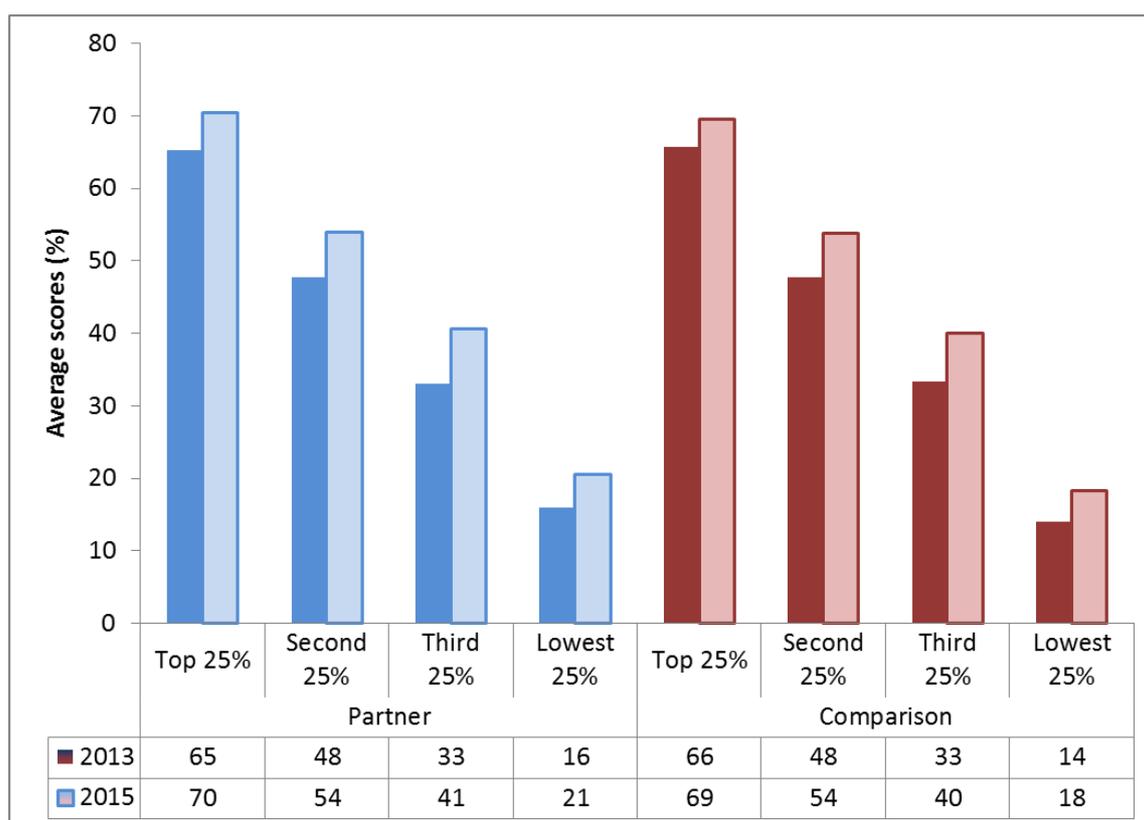
During the baseline, there were large differences between individual schools with the highest having an average student score of 66% and the lowest 7% in partner schools. There were increases in the highest and lowest score in partner schools during the mid-line survey but the difference between the two remained large (Table 10).

**Table 10. Grade 4 Lowest and Highest Average Scores in Mathematics**

	Partner		Comparison	
	2013	2015	2013	2015
Lowest	7%	11%	0%	13%
Highest	66%	73%	67%	77%

Chart 9 shows the average score per quartile. During the baseline, the top 25% of students in partner and comparison schools scored, on average, 65% and 66% respectively; whereas the lowest 25% of students in partner schools scored, on average, 16%, and in comparison schools 14%.

**Chart 9. Average Percentage by Quartile in Mathematics Tests**



During the second assessment, the averages of all quartiles are higher than the first assessment both in partner and in comparison schools. The higher increases took place in the third quartiles. It means that the improvements took place in all of the quartiles and the third quartiles contributed more to the increase.

During the baseline assessment, the questions that the children found most difficult to answer are shown in Table 11. Results from questions 2, 12, and 19 show that students had difficulties in recognizing the value of both decimal and simple fractions, as well as had difficulties with operations with decimal fractions. Students scored very low on questions that required problem solving creativity in working out their answers (questions 13, 17, 18, and 20).

During the second assessment, these seven questions still remain the most difficult but the percentages of students that could answer them increased significantly in almost all of the seven questions. The first two questions on the list (money problem and ordering decimal fractions) still remain the most difficult of all.

**Table 11. Most Difficult Questions: The Percentages of Correct Answers in Selected Questions**

Number and Description of Questions	Partner		Comparison	
	2013	2015	2013	2015
20. Money problem	8	17	8	12
12. Ordering decimal fractions	9	11	9	8
2. Addition of decimals	13	18	12	11
17. Configuring shapes	13	23	14	20
18. Number series problem	14	28	14	19
13. Completing a number series	16	27	15	23
19. Recognizing simple fractions ( $\frac{1}{2}$ , $\frac{1}{4}$ etc.)	22	24	17	21
15. Counting the area of shapes	29	35	29	30
10. Inserting missing number in a division sum	30	38	27	35

Table 12 shows the percentage of children scoring correct in each of the 20 questions in the test.

**Table 12. Analysis of Scores by Question in Mathematics Tests**

Number and Description of Questions	Partner		Comparison	
	2013	2015	2013	2015
1. Addition, tens and units	77	81	70	79
2. Addition of decimals	13	18	12	11
3. Subtraction, tens and units	53	56	49	55
4. Subtraction, hundreds, tens, unit with carrying	42	45	38	44
5. Multiplication, tens and units	51	59	45	53
6. Simple division	34	42	28	36
7. Inserting number operators	55	67	54	60
8. Inserting number operators	77	80	73	77
9. Inserting missing number in an addition sum	74	79	70	74
10. Inserting missing number in a division sum	30	38	27	35
11. Ordering whole numbers	62	68	58	60
12. Ordering decimal fractions	9	11	9	8
13. Completing a number series	16	27	15	23

Number and Description of Questions	Partner		Comparison	
	2013	2015	2013	2015
14. Making number sentences	63	72	59	68
15. Counting the area of shapes	29	35	29	30
16. Estimating length	51	62	49	58
17. Configuring shapes	13	23	14	20
18. Number series problem	14	28	14	19
19. Recognizing simple fractions ( $\frac{1}{2}$ , $\frac{1}{4}$ etc.)	22	24	17	21
20. Money problem	8	17	8	12

### 2.2.3 Implications and Recommendations for USAID PRIORITAS

- Experience in Indonesia has shown that mathematics is poorly taught in many classes. Many teachers have a poor understanding of the concepts they are teaching and tend to teach rules and procedures for doing mathematical operations rather than cultivating an understanding of the concepts. As a result, students have difficulty applying the concepts in real life and using mathematics as a tool for solving problems.
- Training for teachers should focus on the development of students' conceptual thinking and the systematic teaching of number concepts from the physical to the verbal to the symbolic. It should focus on helping both teachers and students to gain an understanding of mathematical concepts by relating them to real situations in areas such as number, money, measurement, geometry and graphical representation.
- *USAID PRIORITAS is training teachers to adopt “problem solving” approaches to teaching mathematics, which also encourage creativity and develop understanding. This includes children being asked to think of a variety of answers to an more open ended problem, being asked to make up their own questions for other children to answer and being asked to make up a variety of questions that will result in the same answer (e.g., How many questions can you make with the answer “20”? How many different shapes can you make with an area of  $24\text{cm}^2$ ?). The project is also encouraging teachers to design lessons where students practice their mathematics skills in real life situations.*

## 2.3 Science Test Grade 5

### 2.3.1 Introduction

This test was divided into two sections. Section A used the familiar format of multiple-choice questioning to assess students' understanding of concepts they have already learnt. Section B assessed their process skills such as the ability to observe, interpret and hypothesize (i.e. providing tentative answers based on previous knowledge and experience). Some of the test items also assessed the ability to apply basic science concepts to everyday situations.

### 2.3.2 The Results

Table 13 shows that during the baseline, the overall average score on the test was 33.7% for partner schools and 33.4% for comparison schools. Boys scored slightly lower than girls on the test. As in the other tests, children who attended kindergarten (TK) scored substantially higher than those who had not. Students attending SD also scored considerably higher than those attending MI and public schools scored higher both among partner schools and comparison schools.

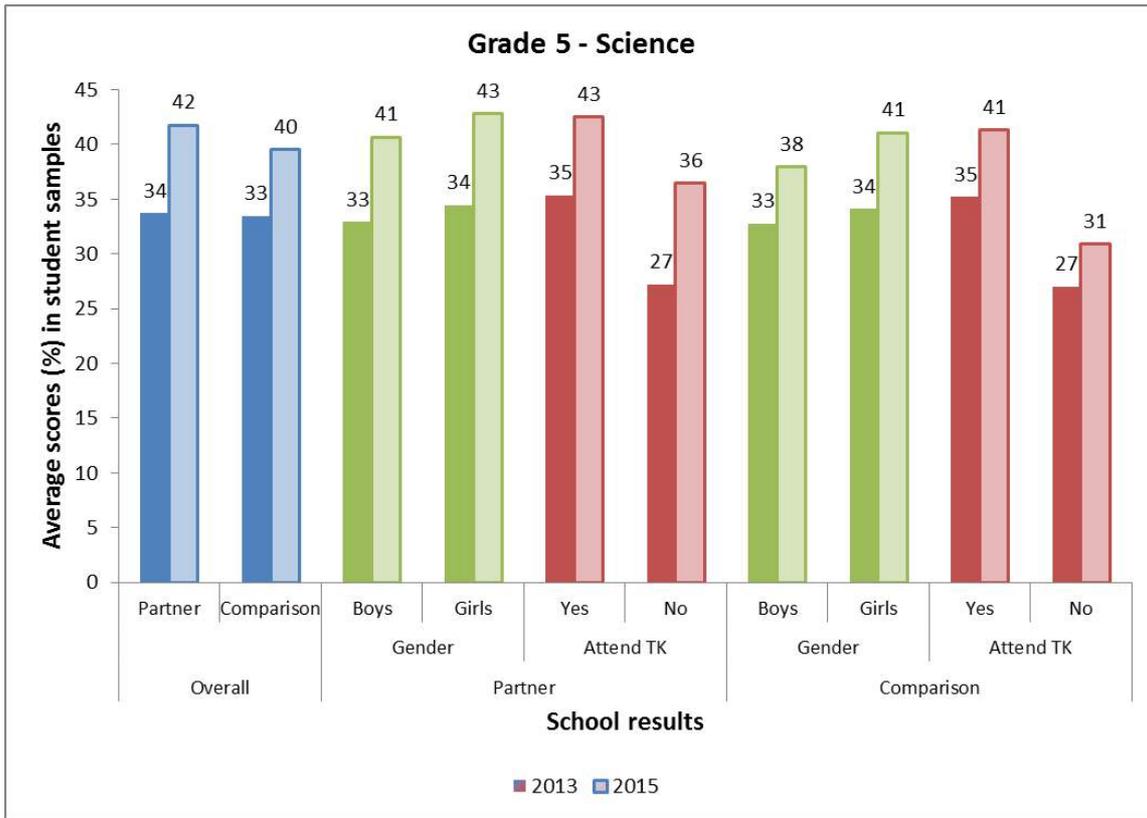
During the midline, the average score on the test was 41.8% for partner schools and 39.6% for comparison schools (an increase of about 23.9% for partner schools and 18.3% for comparison schools). The results of disaggregation by gender, pre-school attendance, type, and status of schools produced similar pattern as in the baseline.

**Table 13. Participant Data and Average Scores in Science Test**

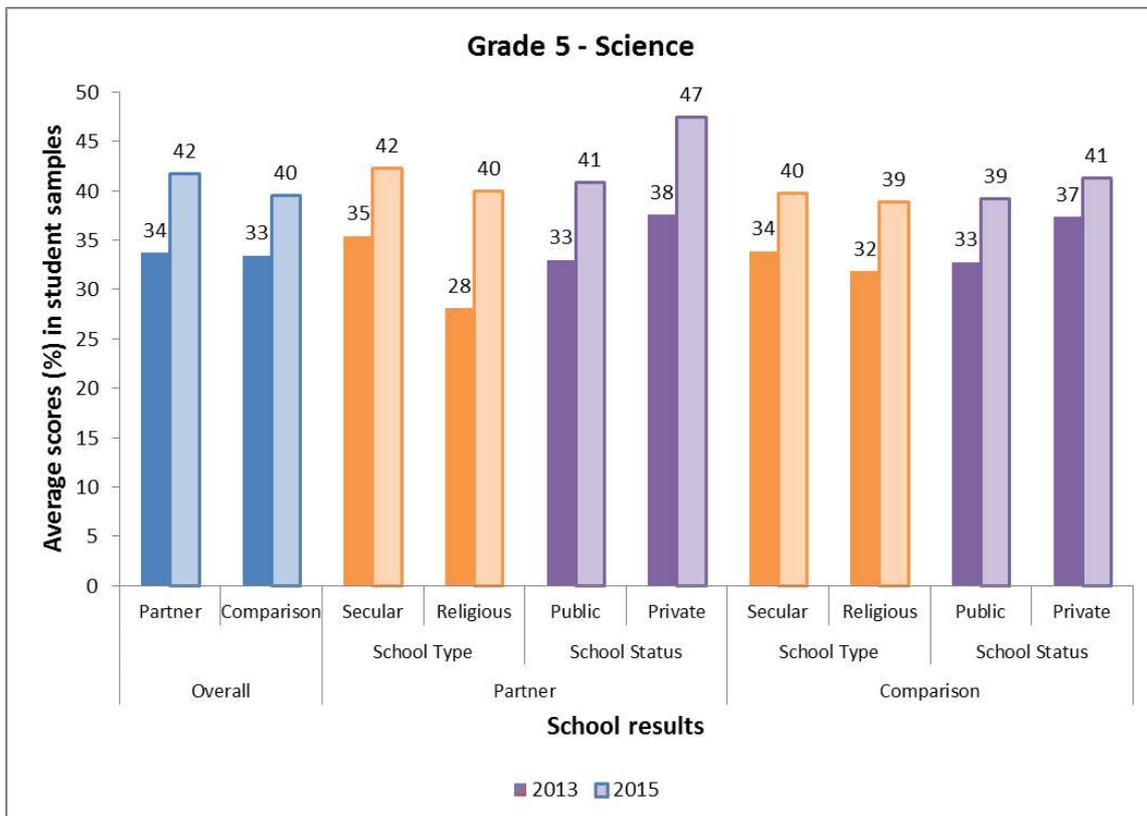
		Year	Partner School			Comparison School		
			Student Tested		Score	Student Tested		Score
			n	%		n	%	
Gender (%)	Boys	2013	686	48.4	32.9	688	49.6	32.8
		2015	716	48.4	40.7	723	48.7	38.0
	Girls	2013	731	51.6	34.5	700	50.4	34.1
		2015	763	51.6	42.8	763	51.3	41.1
Pre School (TK)	Attended	2013	1,132	79.9	35.4	1,092	78.7	35.2
		2015	1,295	87.6	42.5	1,238	83.3	41.3
	Did Not Attend	2013	285	20.1	27.2	296	21.3	27.0
		2015	184	12.4	36.5	248	16.7	30.9
School Type	Secular	2013	1,087	76.7	35.4	1,077	77.6	33.9
		2015	1,146	77.5	42.3	1,151	77.5	39.7
	Religious	2013	330	23.3	28.1	311	22.4	31.8
		2015	333	22.5	39.9	335	22.5	38.9
School Status	Public	2013	1,196	84.4	33.0	1,190	85.7	32.8
		2015	1,268	85.7	40.8	1,252	84.3	39.2
	Private	2013	221	15.6	37.6	198	14.3	37.4
		2015	211	14.3	47.5	234	15.7	41.3
Average		2013	1,417	100.0	33.7	1,388	100.0	33.4
		2015	1,479	100.0	41.8	1,486	100.0	39.6
% increase in scores 2013-2015					23.9			18.3

The results disaggregated by the various groupings are shown in Chart 10 and 11.

**Chart 10. Science by Gender and Pre-School Attendance**



**Chart 11. Science by School Type and School Status**



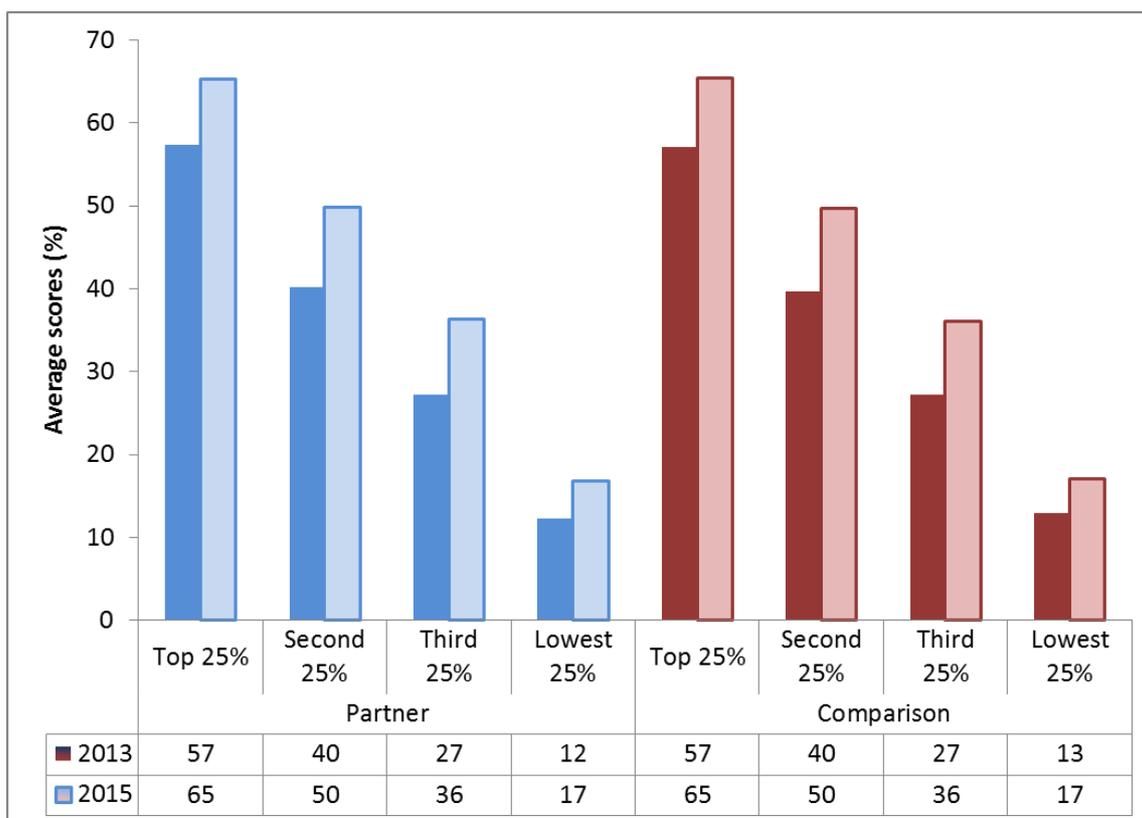
During the baseline, there were large differences in partner schools between individual schools in the baseline with the highest having an average student score of 61% and the lowest 8%. Three schools had average scores below 10. During the midline, the highest and lowest scores increased quite significantly (80% and 12%) and the differences between the two were larger (Table 14).

**Table 14. Grade 5 Lowest and Highest Average Scores in Science**

	Partner		Comparison	
	2013	2015	2013	2015
Lowest	8%	12%	8%	13%
Highest	61%	80%	60%	78%

Chart 12 shows that the increases of average of scores took place in all four quartiles, both in partner and comparison schools. The highest increase took place in the second quartiles while the lowest increase took place lowest quartile both in partner and comparison schools. It means, that all four quartiles contributed to the overall increase of the average score of science test during the midline and the second quartile made the biggest contribution to the increase.

**Chart 12. Quartile in Science Test**



As can be seen from Table 15 below, during the baseline, children found the traditional format of questioning (with multiple choice answers) in Section A much easier than Section B. In Section A, they answered an average of 35% (partner schools) and 34% (comparison schools) correctly. In Section B, where they were required to make deductions and apply concepts that they had learned, they correctly answered an average of 13% and 13% respectively.

During the midline, the students made some improvements in both sections. In Section A, they answered an average of 38% (partner schools) and 36% (comparison schools) correctly and in Section B an average of 18% (partner schools) and 17% (comparison schools) correctly.

**Table 15. Average Scores by Section in the Science Test (%)**

Section	Partner Schools		Comparison Schools	
	2013	2015	2013	2015
Section A	35	38	34	36
Section B	13	18	13	17
<b>Total</b>	<b>34</b>	<b>42</b>	<b>33</b>	<b>40</b>

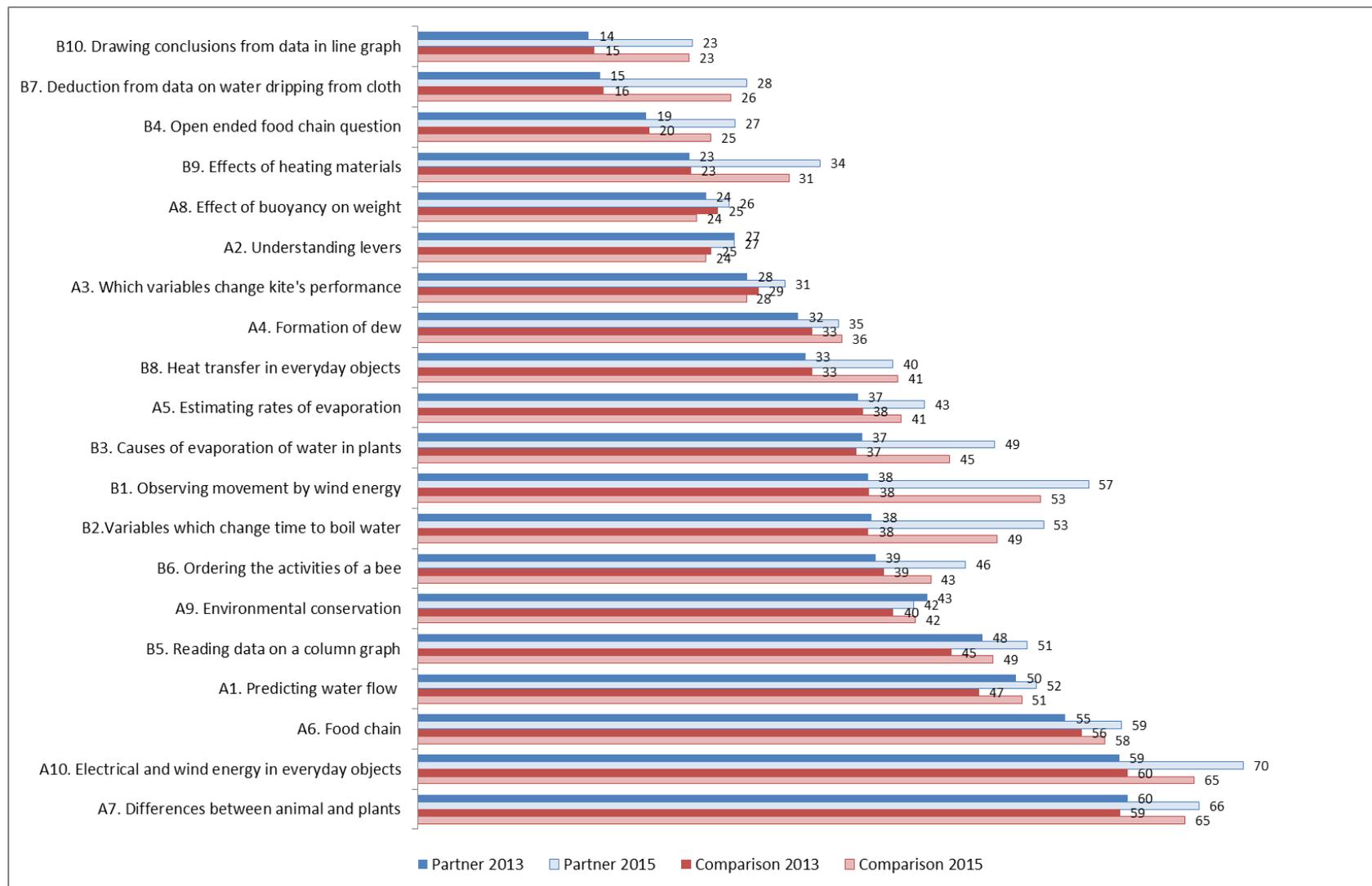
Table 16 shows the questions for which scores were the lowest. The questions with which students had the most difficulty were those where they had to interpret data and where they had to give open-ended answers, i.e., there were no multiple choice answers from which to select. This result suggests that students are more confident in selecting right answers when they are given a choice, but they lack the confidence or skills to construct an answer themselves.

**Table 16. Most Difficult Questions of Science Test**

Number and Description of Questions	Partner		Comparison	
	2013	2015	2013	2015
B10. Drawing conclusions from data in line graph	14	23	15	23
B7. Deduction from data on water dripping from cloth	15	28	16	26
B4. Open ended food chain question	19	27	20	25
B9. Effects of heating materials	23	34	23	31
A8. Effect of buoyancy on weight	24	26	25	24
A2. Understanding levers	27	27	25	24
A3. Which variables change kite's performance	28	31	29	28

Chart 13 on the next page shows the percentage of correct answers to individual questions.

**Chart 13. Analysis of Scores by Question in Primary Science Test**



### **2.3.3 Implications and Recommendations for USAID PRIORITAS**

- Science teaching currently focuses too much on the memorization of rules and concepts and too little on developing understanding of and applying concepts. Too little practical work takes place to support student learning. Students spend much of their time memorizing information from books rather than developing scientific skills such as observation of real phenomena, data analysis, making hypotheses and drawing conclusions.
- *USAID PRIORITAS teacher training is focusing on developing students' scientific skills based on the observation of the real environment and doing experiments to investigate natural phenomena. Training includes helping students to make systematic reports and draw their own conclusions on the experimental and observational work they undertake.*

## Part 3 First and Second Rounds of Testing of Junior Secondary Schools

During the baseline, the student assessment took place between October and December 5, 2013, in 60 partner schools (43 SMP and 17 MTs) and 60 comparison schools (44 SMP and 16 MTs) in the 20 PRIORITAS partner districts. That was 3 partner and 3 comparison schools in each district. Data on the schools tested is set out in Table 14.

In the second monitoring (midline survey), the student assessment took place in the same schools as in the baseline minus four partner schools that withdrew from the sample of the midline survey. The baseline results of the test of these four schools were removed from the analysis so that the analysis were based on the same 56 junior secondary schools.

**Table 17. Data on Schools Tested in 2013 and 2015**

Province	SMP				MTs				Total	
	Public		Private		Public		Private			
	P	C	P	C	P	C	P	C	P	C
Aceh	8	7	1	-	4	3	-	1	12	12
North Sumatera	4	4		-	-	-	2	2	6	6
Banten	4	4		-	1	-	1	2	6	6
West Java	4	4		-	1	2	1	-	6	6
Central Java	4	5		-	2	-	-	1	6	6
East Java	9	11		-	2	-	-	1	11	12
South Sulawesi	5	8		-	3	3	1	1	9	12
<b>Grand Total</b>	<b>42</b>	<b>43</b>	<b>1</b>	<b>-</b>	<b>13</b>	<b>8</b>	<b>5</b>	<b>8</b>	<b>56</b>	<b>60</b>

Note: P=PRIORITAS school, C=Comparison School

The results are reported below by subject, together with the implications and recommendations for USAID PRIORITAS.

### 3.1 Bahasa Indonesia Grade 8

#### 3.1.1 Introduction

Traditional Bahasa Indonesia tests assess knowledge of the Indonesian language rather than children's functional language skills, although the new curriculum emphasizes the development of all four language skills. This particular test focused on skills and was divided into two parts. The first part — reading comprehension — tests children's ability to read an extended piece of writing with understanding, including their ability to deduce meaning from a text. The second part — the writing test — assesses children's ability to extract ideas from a picture and, using their imagination, to produce a logical and well-ordered piece of writing based on the picture. The final score for writing consists of a composite of five scores for the different components of (i) paragraphing and (ii) sentencing, (iii) the quality of the ideas expressed, (iv) spelling and punctuation, and (v) handwriting.

### 3.1.2 The Results

Table 18 shows the average scores obtained in the two tests. In 2013 baseline, the average score was 67% for reading and 51% for writing in partner schools and 64% for reading and 43% for writing in comparison schools. Girls scored somewhat higher than boys in reading and considerably so in writing. SMP students scored higher than MTs students on both tests. Students from state schools scored lower than those in private schools on both tests.

In 2015, the average scores for reading increased by 4.6% (from 66.5% to 69.6%) and decreased by 1.7% (from 50.6% to 49.8%) in writing. The results of disaggregation in 2015 are mostly similar with baseline, except religious schools in comparison group scored slightly higher in reading and writing.

**Table 18. Participant Data and Average Scores in Grade 8 Reading and Writing Tests**

		Year	Partner School				Comparison School			
			Student Tested		Grade 8		Student Tested		Grade 8	
			n	%	Reading	Writing	n	%	Reading	Writing
Gender (%)	Boys	2013	435	42.2	63.6	44.2	449	44.9	61.4	38.6
		2015	439	46.1	67.6	43.4	471	45.3	67.1	41.2
	Girls	2013	595	57.8	67.8	53.6	550	55.1	65.6	47.3
		2015	513	53.9	71.4	55.2	569	54.7	69.9	51.3
School Type	Secular	2013	718	69.7	66.5	50.8	725	72.6	63.7	43.5
		2015	670	70.4	70.4	50.7	781	75.1	68.6	46.3
	Religious	2013	312	30.3	65.0	46.9	274	27.4	63.9	43.2
		2015	282	29.6	67.7	47.5	259	24.9	68.8	48.1
School Status	Public	2013	945	91.7	65.8	49.3	859	86.0	64.3	42.7
		2015	862	90.5	69.8	49.8	891	85.7	68.5	46.1
	Private	2013	85	8.3	68.2	53.5	140	14.0	60.1	47.4
		2015	90	9.5	67.3	49.7	149	14.3	69.3	50.2
Average		2013	964	100.0	66.5	50.6	999	100.0	63.7	43.4
		2015	952	100.0	69.6	49.8	1,040	100.0	68.6	46.7
% increase in scores 2013-2015					4.6	-1.7			7.7	7.7

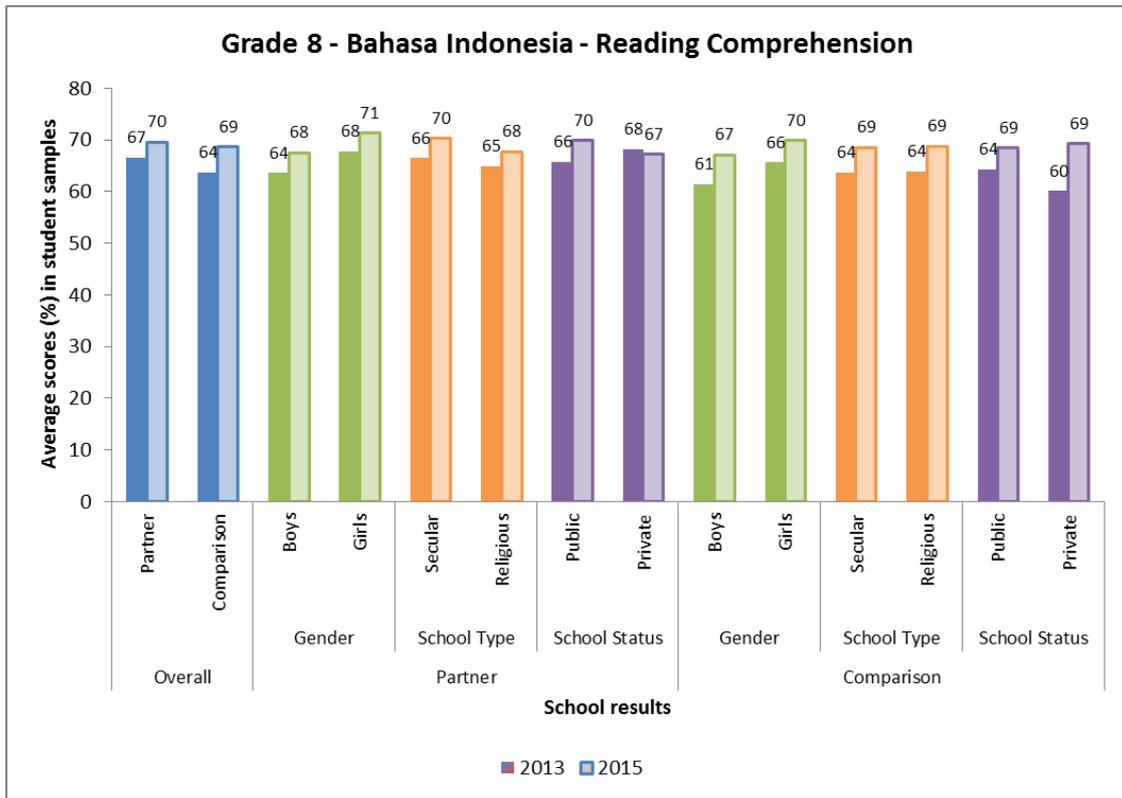
In 2013, there were large differences between individual schools with the highest having an average student score of 87% and the lowest 36% on the reading test in partner schools. In the writing tests, the highest 81% and 21% for the lowest. In 2015, the highest score was 91% and the lowest was 46% in reading. In writing, the highest score was 78% and the lowest 17%. (Table 19).

**Table 19. Grade 8 Lowest and Highest Average Scores in Reading and Writing**

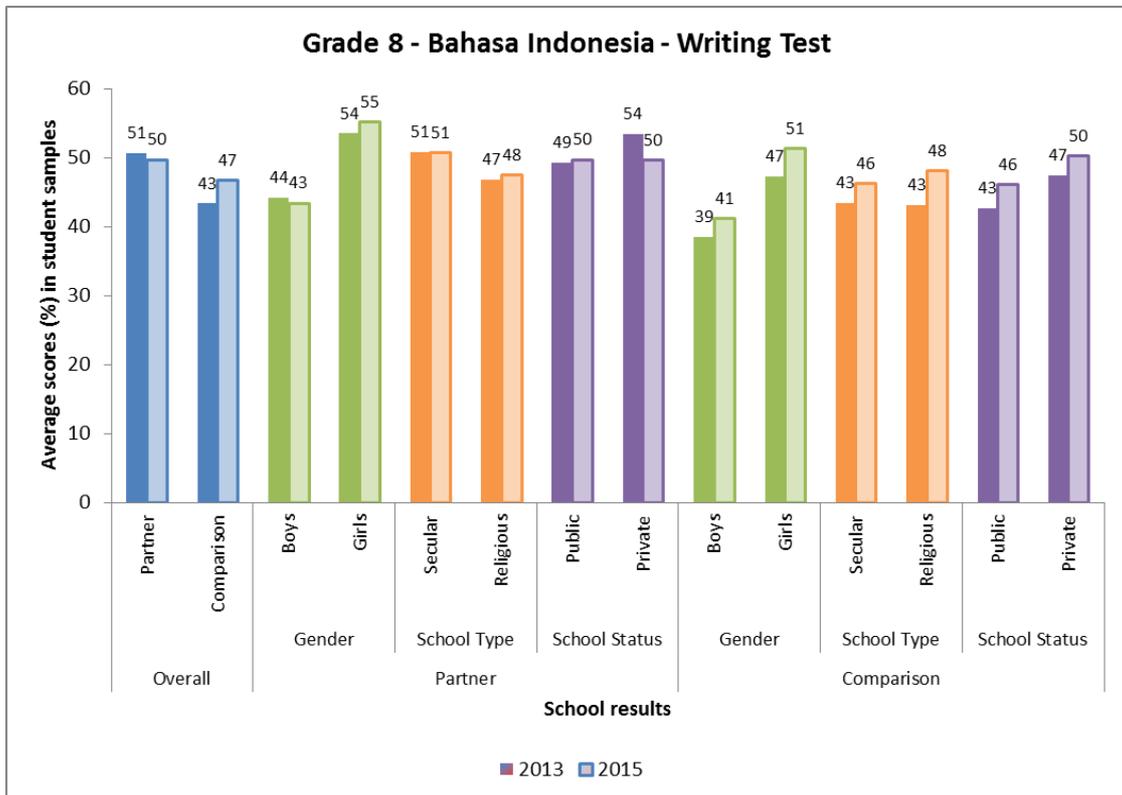
Test		Partner		Comparison	
		2013	2015	2013	2015
Reading	Lowest	36%	46%	37%	44%
	Highest	87%	91%	90%	91%
Writing	Lowest	21%	17%	18%	5%
	Highest	81%	78%	73%	86%

The results disaggregated by the various groupings are shown in Charts 14 and 15 below.

**Chart 14. Reading Comprehension Comparison between Different Groups**



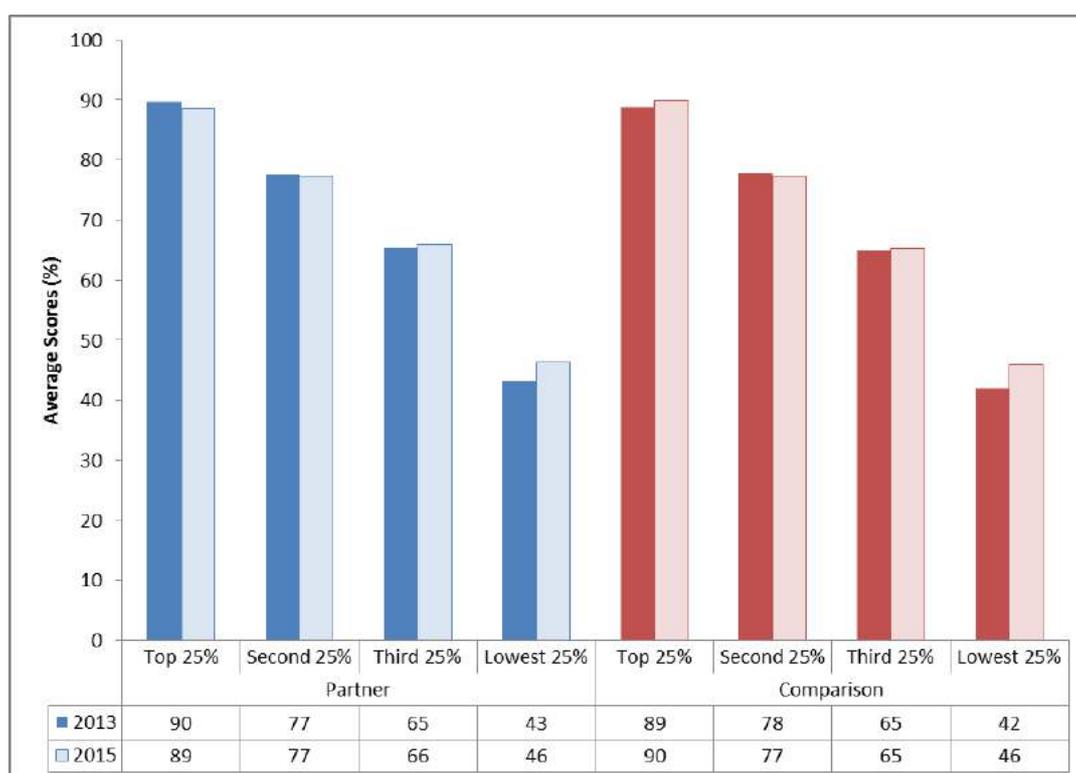
**Chart 15. Writing Test Comparison between Different Groups**



### 3.1.3 Reading

Chart 16 shows that in partner and comparison schools, the improvement in the lowest quartiles are higher than the other three quartiles. It means that students in the lowest quartiles may have benefited more from project interventions than the other three quartiles.

**Chart 16. The Average of Student Scores (in %) by Quartile in the Grade 8 Reading Comprehension Test**



The test was divided into three sections. Section A gave multiple choices of words to complete the sentences about a reading passage. Section B required the students to evaluate whether statements about the passage were true or false, while Section C required students to deduce information from, or attempt to explain, what they had read.

As can be seen from Table 20, during the baseline, the students found section B the easiest, with an average score of 72% (partner) 69% (comparison). However, they did not find much greater difficulty with the other sections. This appears to show that many had reasonable facility in understanding both overt and hidden meaning in the reading passage. The condition was the same during the midline.

**Table 20. Scores by Section**

Section	% Correct			
	Partner		Comparison	
	2013	2015	2013	2015
Section A	65	69	62	66
Section B	72	73	69	72
Section C	64	68	62	68
<b>Total</b>	<b>67</b>	<b>70</b>	<b>64</b>	<b>69</b>

### 3.1.4 Writing

Table 21 shows data for each of the components of the writing test: (i) paragraphing (ii) sentencings, (iii) quality of the ideas expressed, (iv) spelling and punctuation, and (v) handwriting. During the baseline and midline, few students scored perfectly in these components (7 or less on any component).

Lumping the first three categories (“excellent”, “very good”, and “good”), it was evident that in partner schools, some improvements took place only in paragraphing (from 56% to 57%). Some declines took place in other four categories: sentencings (from 75% to 70%), quality of ideas (from 75% to 70%), spelling & punctuation (from 69% to 68%), and handwriting (from 78% to 76%) (Table 21). However, the changes in all categories were generally not very large.

**Table 21. Percentage Scores for Elements of Written Work in Grade 8 Writing Test**

		Paragraph				
		Excellent (%)	Very Good (%)	Good (%)	Poor (%)	Very Poor (%)
Partner	2013	4	18	34	37	6
	2015	4	18	35	38	4
Comparison	2013	2	14	29	44	11
	2015	5	14	29	47	4
		Sentences				
		Excellent (%)	Very Good (%)	Good (%)	Poor (%)	Very Poor (%)
Partner	2013	7	28	40	21	5
	2015	4	27	39	26	4
Comparison	2013	3	22	34	33	9
	2015	3	22	39	31	4
		Quality of Ideas				
		Excellent (%)	Very Good (%)	Good (%)	Poor (%)	Very Poor (%)
Partner	2013	4	28	43	21	4
	2015	6	26	38	25	4
Comparison	2013	3	19	40	29	8
	2015	5	21	38	32	4
		Spelling and Punctuation				
		Excellent (%)	Very Good (%)	Good (%)	Poor (%)	Very Poor (%)
Partner	2013	3	30	36	26	5
	2015	2	23	43	28	4
Comparison	2013	1	22	31	35	10
	2015	3	20	35	38	4
		Handwriting				
		Excellent (%)	Very Good (%)	Good (%)	Poor (%)	Very Poor (%)
Partner	2013	5	31	42	17	4
	2015	7	28	41	19	4
Comparison	2013	3	27	38	24	9
	2015	7	24	41	24	4

**Chart 17. Average Percentages of Student Scores by Quartile in Writing Test**

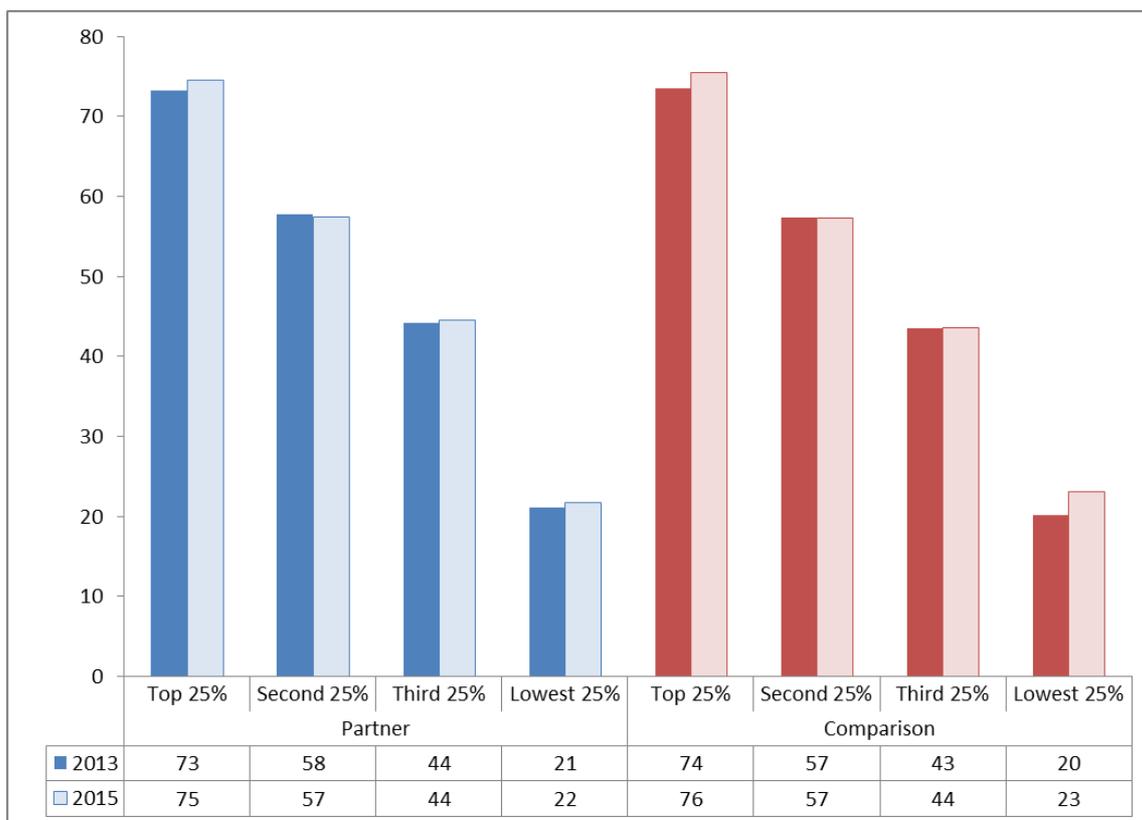


Chart 17 shows the scores per quartile of students in the writing test from the highest to the lowest 25% during the baseline and mid-line. The chart indicates that in partner schools, the increases of only one percent took place in the highest and lowest quartiles. It means that very limited changes took place in the highest and lowest quartile while in the mid two quartiles, no change at all.

### **3.1.5 Implications and Recommendations for USAID PRIORITAS**

- As in primary schools, much of the emphasis in language teaching has been on teaching about language rather than developing students’ skills in using language. Where students get to write it is often only by inserting words in sentences provided by the teacher or the textbook. There have been few opportunities for students to express their own thoughts by, for example, making reports or expressing their feelings or opinions. Reading comprehension also tends to be confined to repeating facts set out in the text. There are few opportunities research information or to read “behind the text.”
- Teachers also need to give their students the opportunity to develop their speaking and listening skills by giving them the opportunity to discuss a variety of issues and problems. Speaking and listening can and should often be linked to reading and writing activities with students being invited to discuss what they read and discuss ideas before they begin to write. They should also be given the opportunity to read and give feedback on each other’s work.

- *USAID PRIORITAS Bahasa Indonesia training is focusing on developing students' skills in reading and writing. Teachers are trained to give their students opportunities to write for a variety of purposes including reporting facts and events, write instructions and express their feelings and opinions. They are also trained to give students the opportunity and develop their skills to read for different purposes, including for enjoyment and finding information, as well as to reflect on and report back on what they have read.*

## 3.2 Mathematics Test Grade 8

### 3.2.1 Introduction

The mathematics test was designed to lay emphasis on testing children’s understanding of mathematical concepts and their ability to apply these concepts in solving problems. The test was revised and some of the questions simplified, following their use between 2005 and 2007 in the assessment of the MBE program in Central and East Java.

### 3.2.2 The Results

Table 22 shows that during the baseline, the overall average score on the test was 34.3% for partner schools and 32.3% for comparison schools. Boys scored slightly lower than girls on the test. SMP and state schools scored considerable higher, respectively, than MTs and private schools.

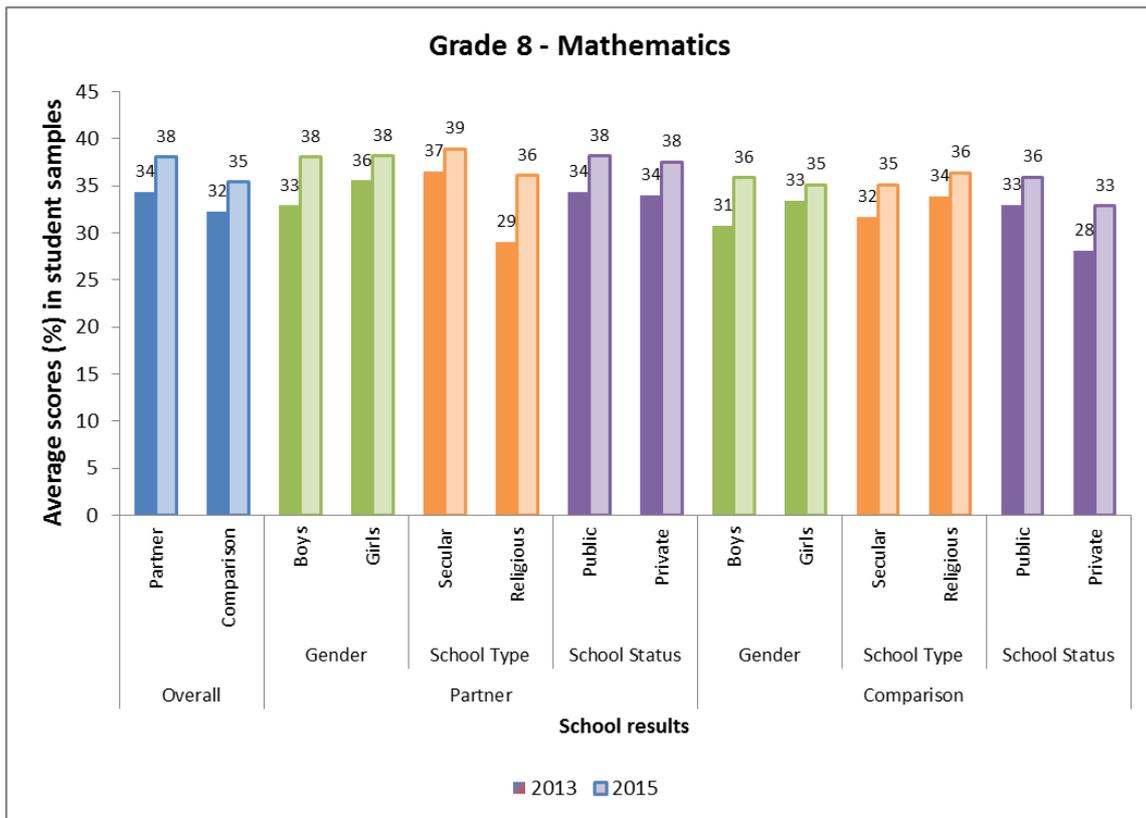
There was an increase of about 11.1% (from 34.3% to 38.1%) in partner schools in the midline. The patterns found during the baseline from disaggregating by gender, school type, and school status were unchanged during the midline.

**Table 22. Participant Data and Average Scores in Grade 8 Mathematics Test**

		Year	Partner School			Comparison School		
			Student Tested		Average Score	Student Tested		Average Score
			n	%		n	%	
Gender (%)	Boys	2013	462	47.1	32.9	451	43.4	30.8
		2015	447	45.0	38.0	450	43.1	35.9
	Girls	2013	518	52.9	35.6	589	56.6	33.4
		2015	546	55.0	38.1	594	56.9	35.1
School Type	Secular	2013	688	70.2	36.5	761	73.2	31.7
		2015	699	70.4	38.9	779	74.6	35.1
	Religious	2013	292	29.8	29.0	279	26.8	33.9
		2015	294	29.6	36.1	265	25.4	36.4
School Status	Public	2013	906	92.4	34.3	891	85.7	33.0
		2015	899	90.5	38.1	876	83.9	35.9
	Private	2013	74	7.6	34.0	149	14.3	28.1
		2015	94	9.5	37.6	168	16.1	32.8
Average		2013	980	100.0	34.3	1,040	100.0	32.3
		2015	993	100.0	38.1	1,044	100.0	35.4
% increase in scores 2013/2015					11.1			9.8

The results disaggregated by the various groupings are shown in Chart 18.

**Chart 18. Comparison between Different Groups**



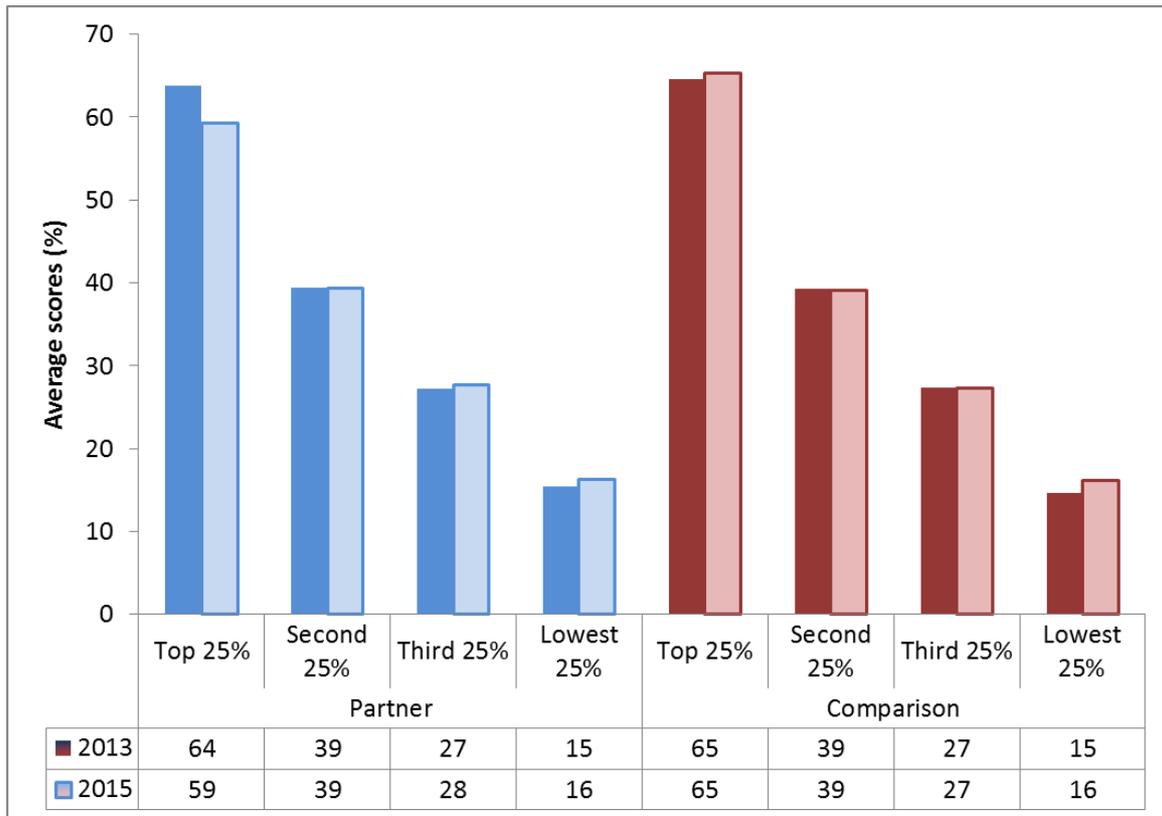
During the baseline, there were large differences between individual schools with the highest having an average student score of 67% and the lowest 7% in partner schools. There were increases in the highest and lowest score in partner schools during the mid-line survey but the difference between the two remained large (Table 23).

**Table 23. Grade 8 Lowest and Highest Average Scores in Mathematics**

	Partner		Comparison	
	2013	2015	2013	2015
Lowest	14%	19%	13%	16%
Highest	67%	76%	73%	90%

Chart 19 shows the average scores per quartile of students from the highest to the lowest 25%. Third and lowest quartiles in partner schools had only one percent increase respectively. No increase on the second and the five percent decline in the top quartile. It indicates that the lowest two quartiles contribute to overall increase during the midline.

**Chart 19. Average Scores (in Percentage) by Quartile in Grade 8 Mathematics Test in 2013 and 2015**



The test consists of two group of questions. The no 1 to 10 questions belong to Group A which are considered to be straightforward mathematical test for Grade 8. The number 11 to 15 questions involved problem solving that had to be worked in two or more stages (i.e. solving one part of the problem first and then using the answer from that part of the problem to solve the whole problem).

Table 21 shows the percentages of students who could correctly answer each of the 15 questions of the test. The percentages are ordered from the lowest percentage (the most difficult questions which could be answered correctly by less than 30% of students) to the highest. The results are interesting. Three of the Group B questions (no 11, 12, 13), as expected, are in the category of the seven most difficult questions. But four of the Group A questions (2, 9, 10, 5) are also in that category.

During the mid-line, there was a modest percentage increases of students who could correctly answer the questions. Six of the seven most difficult questions remain in the same category of the most difficult questions (less than 30% of the students could answer correctly).

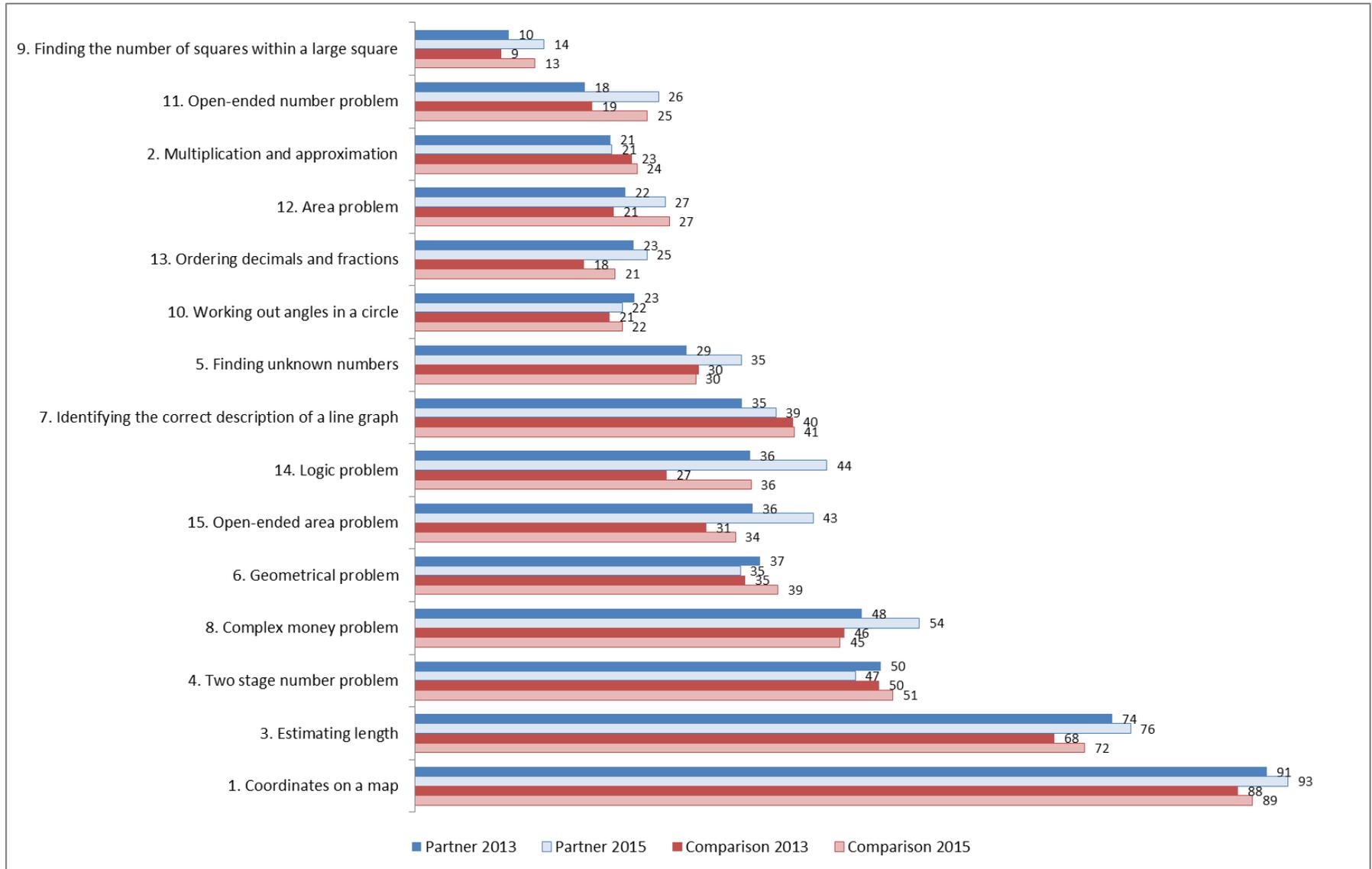
**Table 24. Analysis of Scores by Question in Grade 8 Mathematics Test**

Number and Description of Questions	Partner		Comparison	
	2013	2015	2013	2015
1. Coordinates on a map	91	93	88	89
2. Multiplication and approximation	21	21	23	24
3. Estimating length	74	76	68	72
4. Two stage number problem	50	47	50	51
5. Finding unknown numbers	29	35	30	30
6. Geometrical problem	37	35	35	39
7. Identifying the correct description of a line graph	35	39	40	41
8. Complex money problem	48	54	46	45
9. Finding the number of squares within a large square	10	14	9	13
10. Working out angles in a circle	23	22	21	22
11. Open-ended number problem	18	26	19	25
12. Area problem	22	27	21	27
13. Ordering decimals and fractions	23	25	18	21
14. Logic problem	36	44	27	36
15. Open-ended area problem	36	43	31	34

### **3.2.3 Implications and Recommendations for USAID PRIORITAS**

- As in primary schools, mathematics is poorly taught in many secondary school classes. Many teachers have a poor understanding on the concepts they are teaching and tend to teach rules and procedures for doing mathematical operations rather than cultivating an understanding of the concepts. As a result, many students have difficulty applying the concepts in real life and using mathematics as a tool for solving problems.
- Training for teachers should focus on helping both teachers and students to gain an understanding of mathematical concepts, especially by relating them to real situations in areas such as number, money, measurement, geometry and graphical representation.
- *USAID PRIORITAS is training teachers to adopt “problem solving” approaches to teaching mathematics, which also encourage creativity and develop understanding. This includes children being asked to think of a variety of answers to a more open-ended problem. The project is also encouraging and helping teachers to introduce teaching activities which link mathematics concepts to real life.*

**Chart 20. Analysis of Scores by Question in Math Test**



### **3.3 Science Test Grade 8**

#### **3.3.1 Introduction**

This science test was developed especially for use with USAID PRIORITAS, as science education is one of the focuses of the project. The test was piloted in non-project schools in Central Java. It is divided into two sections. Section A has ten questions using the familiar format of multiple-choice questioning to assess children's understanding of concepts they have already learned. Section B consisted of six questions and assessed children's process skills, such as the ability to observe, interpret, and hypothesize (i.e., providing tentative answers based on previous knowledge and experience). Some of the test items also assessed the ability to apply basic science concepts to everyday situations. A number of the test items were adapted from TIMSS<sup>8</sup> test items.

#### **3.3.2 The Results**

Table 25 shows that in 2013, the overall average score on the test was 39.3% for partner and 36.3% for comparison schools. This was the only test on which boys scored higher than girls in both partner and comparison schools, although their scores were only slightly higher. Students attending SMP scored higher than those attending MTs. State schools scored lower than private schools in partner schools but it was the opposite in comparison schools.

In 2015, there was an increase of 7.2% in the average score of partner schools (from 39.3% to 42.1%) and about 13.2% (from 36.3% to 41.1%) in comparison schools. The scores of the girls overtook those of boys in the partner schools.

The difference between the average scores in schools of 79% (highest) and 13% (lowest) was bigger than in the 2013 baseline.

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<sup>8</sup> The Trends in International Mathematics and Science Study, which is implemented in many countries with grade 4 and grade 6 students every four years.

**Table 25. Participant Data and Average Scores in Science Test**

		Year	Partner School			Comparison School		
			Student Tested		Score	Student Tested		Score
			n	%		n	%	
Gender (%)	Boys	2013	431	42.6	40.0	451	44.2	36.6
		2015	419	42.8	42.1	442	42.1	41.2
	Girls	2013	580	57.4	38.7	569	55.8	36.0
		2015	561	57.2	42.1	608	57.9	41.0
School Type	Secular	2013	696	68.8	41.4	742	72.7	36.0
		2015	699	71.3	43.4	789	75.1	41.3
	Religious	2013	315	31.2	34.6	278	27.3	37.2
		2015	281	28.7	38.9	261	24.9	40.5
School Status	Public	2013	918	90.8	39.4	859	84.2	36.7
		2015	891	90.9	41.8	853	81.2	41.3
	Private	2013	93	9.2	38.2	161	15.8	34.1
		2015	89	9.1	45.4	197	18.8	40.1
Average		2013	1,011	100.0	39.3	1,020	100.0	36.3
		2015	980	100.0	42.1	1,050	100.0	41.1
% increase in scores 2013-2015					7.2			13.2

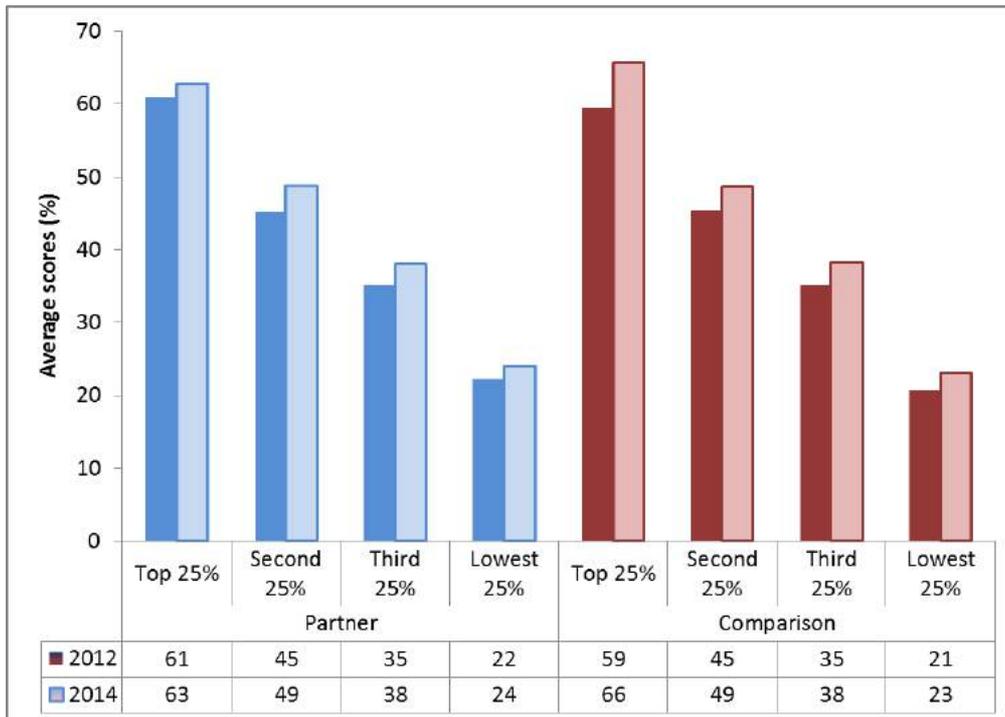
During the baseline, there were large differences in partner school between individual schools with the highest having an average student score of 79% and the lowest 13%. During the mid-line, there were a slight decrease in the highest and lowest scores in partner schools. In comparison schools, there was a slight increase but a large increase in the highest scores (from 64% to 74%) (Table 26).

**Table 26. Grade 8 Lowest and Highest Average Scores in Science**

	Partner		Comparison	
	2013	2015	2013	2015
Lowest	13%	6%	11%	12%
Highest	79%	78%	64%	74%

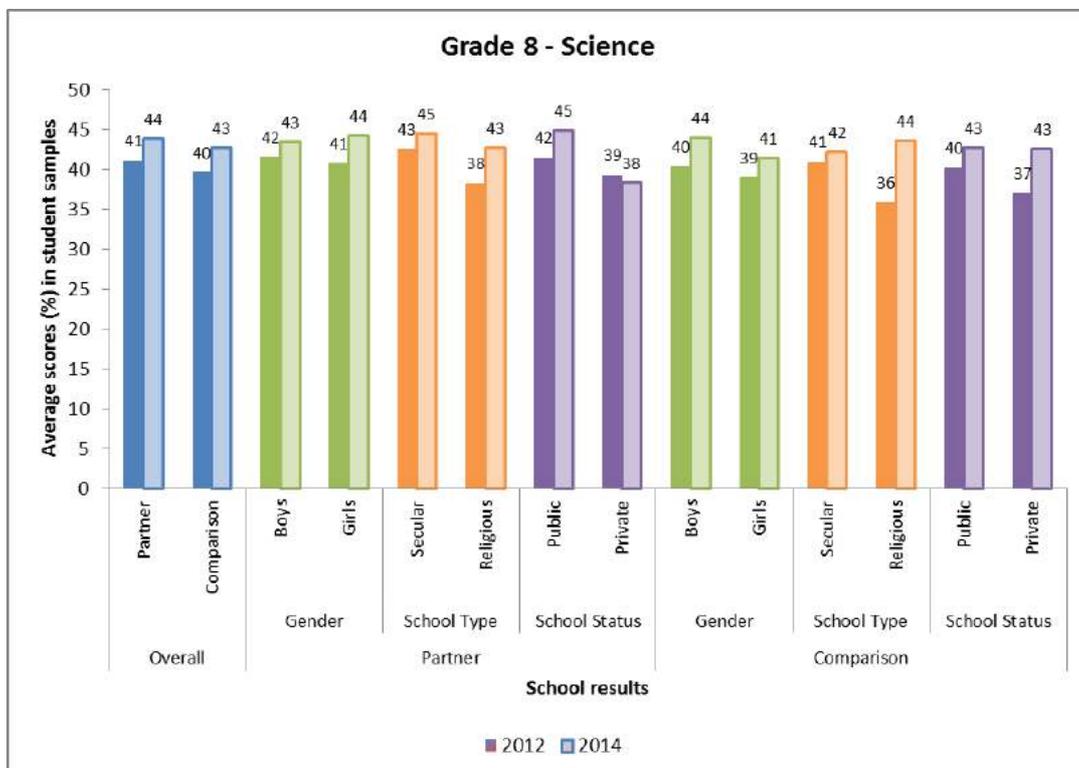
Chart 21 shows the average scores per quartile of students in 2015 were higher than in 2013 in all four quartile both in partner and comparison schools. This indicates that the progress is more or less evenly spread across all learners. The biggest improvement was in the highest quartile of comparison schools.

**Chart 21. Average Percentages of Student Scores by Quartile in Science Test**



The results from Table 22, above, are disaggregated by the various groupings, and shown in Chart 22 below.

**Chart 22. Comparison between Different Groups**



As can be seen from Table 23 below, during the baseline (2013), students were able to answer questions in the traditional format of questioning (with multiple choice answers) in

Section A just as easily those in Section B, which required written answers. During the midline (2015), the average scores clearly indicate that multiple choice questions are easier than those tests that require written answers.

**Table 27. Average Scores by Section in the Science Test**

Section	Partner		Comparison	
	2013	2015	2013	2015
Section A	39	42	36	41
Section B	39	43	37	42
<b>Total</b>	<b>39</b>	<b>42</b>	<b>36</b>	<b>41</b>

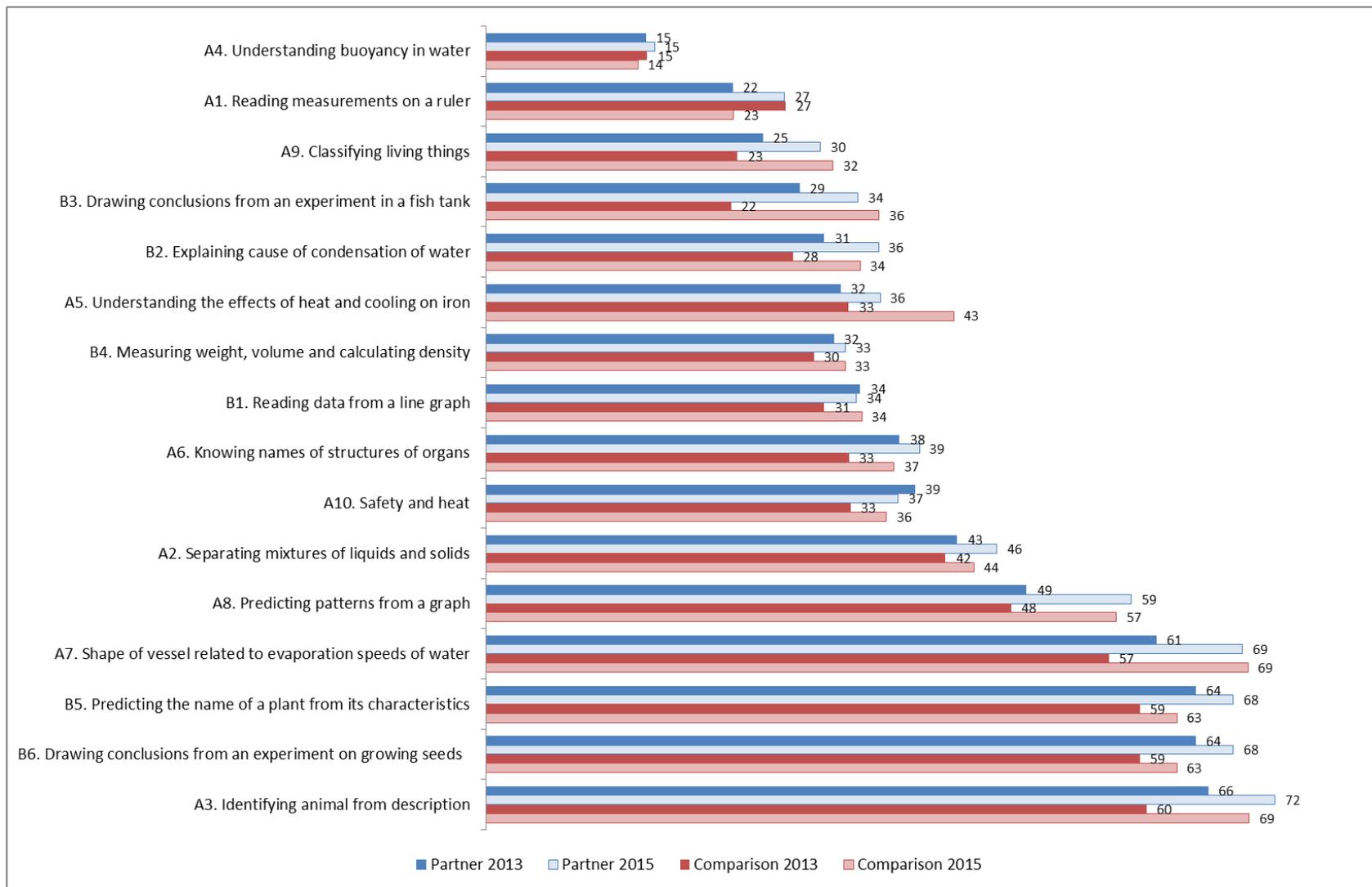
Table 28 shows the percentage of correct answers in each of the 15 questions on the test.

**Table 28. Analysis of Scores by Question in Grade 8 Science Test**

Number and Description of questions	Partner		Comparison	
	2013	2015	2013	2015
A1. Reading measurements on a ruler	22	27	27	23
A2. Separating mixtures of liquids and solids	43	46	42	44
A3. Identifying animal from description	66	72	60	69
A4. Understanding buoyancy in water	15	15	15	14
A5. Understanding the effects of heat and cooling on iron	32	36	33	43
A6. Knowing names of structures of organs	38	39	33	37
A7. Shape of vessel related to evaporation speeds of water	61	69	57	69
A8. Predicting patterns from a graph	49	59	48	57
A9. Classifying living things	25	30	23	32
A10. Safety and heat	39	37	33	36
B1. Reading data from a line graph	34	34	31	34
B2. Explaining cause of condensation of water	31	36	28	34
B3. Drawing conclusions from an experiment in a fish tank	29	34	22	36
B4. Measuring weight, volume and calculating density	32	33	30	33
B5. Predicting the name of a plant from its characteristics	64	68	59	63
B6. Drawing conclusions from an experiment on growing seeds	54	55	52	51

Chart 23 lists the questions according to their level of difficulties: the question with the lowest percentage of correct answer is the most difficult. During the baseline, 12 out of 15 questions could only have less than 50% correct answers. During the midline, only one out of 12 questions have >50% correct answer. The students were relatively weak in all areas, but were especially so where they had to reason or make deductions from data. They also seem not to have acquired measuring skills through practical work. For example, they had difficulty in reading measurements from a ruler and reading weighing scales and measuring cylinders. They also had a weak knowledge of technical terms and had difficulty in applying concepts to everyday situations.

**Chart 23. Analysis of Scores by Question in Science Test**



### **3.3.3 Implications and Recommendations for USAID PRIORITAS**

- The results of the junior secondary school science test reinforce those of the primary schools test. Science teaching focuses too much on the memorization of rules and concepts and too little on developing understanding of and applying concepts. Too little practical work takes place to support science teaching. Students spend much of their time memorizing information from books rather than developing scientific skills such as observation of real phenomena, data analysis, making hypotheses and drawing conclusions.
- *USAID PRIORITAS teacher training is focusing on practical activities to develop students' scientific skills. This includes the observation of the real environment and doing experiments to investigate natural phenomena. Teachers are trained to teach students to make systematic reports and draw their own conclusions on the experimental and observational work they undertake.*

# Annex I. Average Test Scores by School

## Average Primary School Scores by School (%)

Province	District	Sample	School Name	Year	Grade 4			Grade 5
					Bahasa Indonesia		Math (%)	Science (%)
					Reading (%)	Writing (%)		
Aceh	Aceh Barat Daya, Kab.	Partner	MIN Paoh Padang	2013	34.1	17.2	31.5	18.6
				2015	30.7	39.6	20.8	30.4
			SDN 2 Lembah Sabil	2013	22.1	42.9	21.6	12.0
				2015	46.8	40.0	30.1	34.3
			SDN 4 Susoh	2013	28.6	54.1	36.1	28.7
				2015	37.9	50.0	44.7	35.7
			SDN 4 Lembah Sabil	2013	28.0	22.9	42.7	19.5
				2015	50.4	41.9	24.4	16.9
		Comparison	MIN KP Rawa	2013	36.0	39.5	31.3	23.3
				2015	40.9	15.5	38.3	22.2
			SDN 2 Manggeng	2013	25.4	22.5	16.1	14.9
				2015	32.9	14.6	14.1	14.5
			SDN 10 Susoh	2013	36.8	29.5	17.1	22.1
				2015	35.7	12.6	19.7	26.5
	SDN 1 Manggeng	2013	15.6	7.2	22.0	9.7		
		2015	45.5	19.5	26.4	18.9		
	Aceh Tamiang, Kab.	Partner	MIN Kampung Durian	2013	33.1	27.7	32.5	34.6
				2015	56.3	57.5	59.8	44.7
			SDN 1 Bukit Tempurung	2013	36.2	45.0	60.0	38.8
				2015	57.5	52.6	56.3	24.4
			SDN Seruway	2013	34.9	26.5	38.0	22.3
				2015	48.4	49.4	47.8	41.5
			SDN Tanah Merah	2013	26.1	15.0	24.2	20.8
				2015	55.7	41.0	38.2	21.5
		Comparison	MIN Simpang IV Upah	2013	29.3	13.9	33.0	16.4
				2015	50.7	49.4	47.4	44.3
			SDN 1 Kuala Simpang	2013	35.2	35.0	46.5	29.6
				2015	60.0	57.8	60.6	51.2
			SDN 1 Rantau Pauh	2013	18.1	11.5	31.5	19.3
				2015	38.8	36.1	47.8	45.3
	SDN Muka Sungai Kuruk	2013	34.6	25.5	43.4	19.6		
		2015	45.2	32.5	46.9	46.4		
Aceh Utara, Kab.	Partner	MIN Pantonlabu	2013	20.5	14.0	22.7	11.0	
			2015	45.0	22.3	35.0	32.4	
		SDN 1 Tanah Jambo Aye	2013	28.8	31.5	30.8	32.0	
			2015	43.2	52.7	61.5	36.9	
		SDN 10 Seunuddon	2013	26.6	0.0	21.3	11.6	
			2015	45.4	14.3	39.7	39.7	
		SDN 5 Seunuddon	2013	23.2	23.4	23.5	13.7	
			2015	35.2	6.4	40.4	12.1	
	Comparison	MIN Sampoiniet	2013	8.5	6.6	12.0	9.8	
			2015	43.8	22.8	23.3	29.6	
		SDN 1 Baktiya	2013	16.0	15.0	30.9	33.2	
			2015	52.1	16.0	55.8	33.6	
		SDN 3 Baktiya	2013	28.2	13.2	11.5	23.5	
			2015	33.0	5.8	31.1	35.5	
SDN 5 Baktiya	2013	20.8	14.4	23.7	13.7			
	2015	20.6	15.0	20.5	15.3			
Pidie Jaya, Kab.	Partner	MIN Jeulanga	2013	6.3	4.4	6.9	8.4	
			2015	22.1	22.5	13.8	19.8	
		SDN 5 Meureudu	2013	44.8	35.8	46.3	22.6	
			2015	55.6	51.3	34.9	33.6	
		SDN Rhieng	2013	21.1	0.0	37.9	9.6	
			2015	21.4	47.1	45.3	16.8	
		SDN Teupin Pukat	2013	18.2	17.1	16.0	23.4	
			2015	30.8	16.6	31.8	36.6	

Province	District	Sample	School Name	Year	Grade 4			Grade 5	
					Bahasa Indonesia		Math (%)	Science (%)	
					Reading (%)	Writing (%)			
North Sumatra	Langkat, Kab.	Comparison	MIN Kuta Rentang	2013	10.7	4.3	15.1	13.2	
				2015	21.1	16.8	24.7	24.3	
			SDN I Ulim	2013	8.5	1.5	17.4	17.0	
				2015	41.5	21.7	33.6	32.5	
			SDN Antara	2013	30.9	22.1	15.0	8.3	
				2015	30.7	25.5	15.4	34.1	
			SDN Kuta Bate	2013	29.6	19.3	20.1	20.1	
				2015	33.4	32.5	20.4	38.7	
		Partner	MIN Paluh Nipah	2013	29.5	44.6	23.7	16.7	
				2015	46.4	35.0	38.4	21.7	
				SDN 050660 Kuala Bingai	2013	51.4	37.0	45.6	45.0
					2015	66.6	50.7	40.0	52.8
				SDN 050661 Kuala Bingai	2013	52.7	50.4	35.9	30.2
					2015	65.8	40.6	50.2	24.4
				SDN 050728 Tanjung Pura	2013	23.6	38.7	28.6	24.3
					2015	46.7	36.9	40.7	43.0
	Comparison	MIN Tanjung Mulia	2013	56.8	49.6	20.8	30.6		
			2015	50.0	42.6	39.1	26.5		
			SDN 050594 Sambirejo	2013	23.8	10.0	33.3	34.7	
				2015	48.1	30.7	21.6	27.4	
			SDN 053970 Perdamean	2013	36.7	32.7	27.7	28.3	
				2015	43.7	28.9	36.0	34.3	
			SDN 054929 Kampung Baru Pasar VIII	2013	36.5	12.7	42.3	28.1	
				2015	47.7	34.3	46.7	21.8	
	Toba Samosir, Kab.	Partner	MIN Lumban Gurning	2013	40.0	47.0	47.0	32.7	
			Porsea	2015	48.3	50.3	36.7	34.6	
			SD Swasta HKBP I Balige	2013	41.0	49.7	36.9	49.4	
				2015	58.3	43.0	36.0	58.3	
			SDN 173524 Balige	2013	35.0	42.8	47.9	39.6	
				2015	63.3	67.7	53.1	45.4	
			SDN 173551 Laguboti	2013	35.3	37.8	54.2	48.9	
				2015	67.6	69.7	43.9	53.1	
		Comparison	SDN 173529 Tampahan	2013	39.9	40.0	36.1	24.1	
				2015	56.1	47.9	40.5	41.5	
			SDN 173582 Sigumpar	2013	29.3	38.4	48.1	33.7	
				2015	57.1	62.3	46.1	43.5	
		SDN 173592 Sigumpar	2013	33.3	0.6	32.4	35.0		
			2015	55.8	44.2	44.3	43.0		
		SDN 175803 Tampahan	2013	44.3	45.4	50.0	19.5		
			2015	50.3	45.4	48.7	29.6		
Banten	Tangerang, Kab.	Partner	MI Al Husein Tigaraksa	2013	45.7	63.8	64.0	38.9	
				2015	71.7	43.4	46.7	49.9	
			MI Syech Mubarak	2013	16.3	41.4	48.7	23.0	
				2015	16.7	30.7	38.3	36.7	
			SDN Campaka 3	2013	40.0	73.0	38.1	29.1	
				2015	53.4	42.6	53.9	39.3	
			SDN Sodong I	2013	46.1	32.3	43.3	28.1	
				2015	27.5	45.0	44.9	48.6	
		Comparison	MI Al Ittihad Daru	2013	48.8	65.0	45.8	36.0	
				2015	46.4	35.5	47.1	45.6	
			MI Darussalam	2013	33.8	45.5	37.0	37.8	
				2015	50.5	34.7	47.2	39.7	
		SDN Panongan 3	2013	60.9	52.3	42.3	57.7		
			2015	24.5	28.9	46.1	40.4		
		SDN Rancabuaya I	2013	32.7	35.5	35.8	44.6		
			2015	53.8	40.0	33.9	30.1		
	Tangerang Selatan, Kota	Partner	MI l'anatul Huda	2013	27.5	37.0	35.4	22.0	
				2015	48.9	52.7	33.0	33.9	
			SDN Jelupang I	2013	38.6	53.0	56.6	41.5	

Province	District	Sample	School Name	Year	Grade 4			Grade 5		
					Bahasa Indonesia		Math (%)	Science (%)		
					Reading (%)	Writing (%)				
				2015	48.6	38.5	46.7	46.3		
				SDN Kademangan I	2013	36.8	33.3	42.1	46.1	
					2015	47.3	56.3	46.9	44.9	
				SDS AI Amanah	2013	51.6	67.5	62.1	43.7	
					2015	61.7	61.9	58.1	33.4	
				Comparison	MI Miftah Sa'adah	2013	42.4	45.0	33.6	34.5
						2015	54.3	56.5	31.3	23.0
				MI Nurul Falah Pondok Ranji	2013	42.7	52.0	42.7	49.6	
					2015	59.5	46.0	56.9	33.7	
				SDN Cireundeu 2	2013	38.9	38.8	35.8	38.5	
					2015	64.6	52.5	60.6	45.3	
				SDN Pucung 2	2013	46.4	61.4	64.3	48.4	
					2015	52.5	42.3	48.8	49.7	
				West Java	Bekasi, Kab.	Partner	MI At Taqwa	2013	43.3	38.7
2015	70.0	56.3	56.1					61.5		
SDN 1 Jayamukti	2013	41.6	42.1				36.9	17.4		
	2015	80.1	63.4				72.7	50.5		
SDN 2 Hegarmukti	2013	39.5	39.0				23.9	45.7		
	2015	65.7	64.3			70.8	64.6			
SDN 6 Sukaresmi	2013	42.6	42.3			55.6	40.2			
	2015	84.3	57.8			54.6	48.4			
Comparison	MIS Nurul Yaqin	2013	28.1			17.3	18.3	25.3		
		2015	47.6			15.0	30.4	41.3		
	SDN 1 Sertajaya	2013	33.6		13.3	28.6	21.3			
		2015	47.6		51.3	46.4	51.8			
	SDN 1 Simpangan	2013	42.6		32.5	51.2	41.5			
2015		68.1	74.3		66.9	47.8				
Cirebon, Kab.	Partner	MIN Sindangmekar	2013		26.7	36.1	31.0	23.4		
			2015		69.4	58.1	73.4	48.4		
		SDN 1 Cangkoak	2013		27.1	53.3	32.1	24.9		
			2015		60.2	56.3	54.7	50.5		
		SDN 1 Panembahan	2013		47.7	60.8	66.0	54.4		
	2015		73.2		55.6	66.9	59.0			
	SDN 2 Panembahan	2013	52.7	26.8	52.5	42.2				
		2015	81.0	75.3	70.8	59.6				
	Comparison	MI Alwahdah	2013	41.1	16.3	39.0	26.9			
			2015	42.6	45.7	52.1	45.5			
SDN 2 Pegagan		2013	42.9	25.7	59.2	33.3				
		2015	49.5	45.0	55.0	41.3				
SDN 2 Setu Wetan		2013	45.1	60.3	58.6	47.0				
	2015	61.1	51.3	49.2	49.7					
SDN 3 Setu Wetan	2013	39.9	19.2	49.7	24.9					
	2015	58.9	52.5	60.8	39.2					
Kuningan, Kab.	Partner	MIN Maniskidul	2013	46.2	38.3	28.6	32.2			
			2015	48.4	48.1	41.4	54.1			
		SDN 1 Cilimus	2013	38.5	35.0	36.3	40.6			
			2015	50.0	48.9	64.2	61.0			
		SDN 1 Purwasari	2013	21.4	20.3	39.2	31.2			
			2015	64.8	45.7	61.3	62.1			
		SDN 3 Lengkong	2013	40.6	37.9	25.8	35.8			
			2015	64.3	55.9	49.3	61.3			
	Comparison	MI Manbaul Ulum	2013	42.9	39.0	27.2	35.0			
			2015	49.1	48.8	64.0	41.6			
		SDN 1 Kertayasa	2013	34.7	24.3	28.9	23.0			
			2015	68.2	54.6	50.8	42.0			
		SDN Jambugeulis	2013	20.3	18.8	22.6	21.0			
			2015	50.2	42.7	36.5	35.4			

Province	District	Sample	School Name	Year	Grade 4			Grade 5
					Bahasa Indonesia		Math (%)	Science (%)
					Reading (%)	Writing (%)		
	Tasikmalaya, Kab.		SDN Tirtawangunan	2013	45.8	35.8	45.8	24.3
			2015	46.9	32.1	28.9	58.7	
		Partner	MI Cicarulang	2013	36.3	23.5	42.9	35.6
			2015	55.1	57.6	72.8	56.5	
			SDN 3 Pakemitan	2013	48.9	60.8	63.8	28.3
			2015	70.7	58.6	61.4	55.4	
		SDN Bugel Alis	2013	57.1	35.7	54.2	41.8	
			2015	40.7	45.0	65.8	55.8	
		SDN Citatah	2013	27.7	42.5	40.8	31.4	
			2015	65.7	51.0	70.8	57.3	
		Comparison	MIS Nurul Ikhsan	2013	38.4	35.6	40.2	39.7
			2015	61.3	46.3	58.0	63.8	
			SDN I Dirgahayu	2013	29.1	8.2	28.5	29.6
			2015	35.5	36.1	50.3	52.0	
		SDN I Kadipaten	2013	32.7	36.1	60.7	42.1	
			2015	53.2	37.5	61.7	73.3	
SDN Salebu	2013	50.6	58.7	50.7	43.9			
	2015	54.8	43.2	49.3	63.8			
Central Java	Pekalongan, Kab.	Partner	MI Salafiyah Warulor	2013	36.9	30.0	30.6	34.5
			2015	52.7	42.5	40.2	37.9	
			SD Muhammadiyah Kajen	2013	43.4	47.1	45.8	40.6
			2015	72.3	52.5	40.3	50.2	
		SDN I Kampil	2013	42.4	64.3	42.9	38.2	
			2015	47.6	57.5	70.1	44.6	
		SDN Pekiringanalit 3	2013	45.2	51.1	51.3	32.3	
			2015	58.6	53.8	54.5	40.7	
		Comparison	MI Salafiyah Tanjung	2013	38.4	50.3	38.9	32.9
			2015	52.7	51.3	40.8	36.2	
			SD Muhammadiyah 3 Pekajangan	2013	47.3	50.6	54.2	50.2
			2015	68.6	53.9	65.9	52.1	
		SDN 2 Pakis Putih	2013	43.6	61.3	48.2	45.3	
			2015	55.2	42.3	55.9	50.4	
		SDN 3 Kedungwuni	2013	39.1	56.4	44.2	35.3	
			2015	46.9	61.7	44.3	31.0	
Wonosobo, Kab.	Partner	MI Muhammadiyah Kertek	2013	60.0	61.0	58.0	53.4	
		2015	82.1	56.5	66.4	51.7		
		SDN I Bojasari	2013	57.8	55.6	44.4	61.0	
		2015	77.9	71.9	51.3	50.1		
	SDN 2 Jengkol	2013	56.5	55.4	51.1	55.3		
		2015	62.8	61.8	72.8	51.9		
	SDN Siwuran	2013	36.5	43.6	48.1	32.1		
		2015	71.2	64.4	59.5	79.6		
	Comparison	MI Ma'arif Kliwonan	2013	54.1	52.4	57.2	43.0	
		2015	72.7	49.6	45.0	43.1		
		SDN I Kalibeber	2013	59.8	63.3	66.7	53.3	
		2015	67.9	44.3	65.7	77.5		
SDN I Kalikajar	2013	71.9	50.0	43.2	60.0			
	2015	73.2	49.6	58.0	50.2			
SDN I Kejajar	2013	67.6	51.9	45.8	59.0			
	2015	68.1	61.7	53.0	47.1			
East Java	Lumajang, Kab.	Partner	MI Nurul Islam Selok Besuki (Imbas)	2013	34.1	21.5	27.4	17.3
			2015	44.8	56.0	48.6	52.4	
		SDN Denok (Imbas)	2013	46.1	35.0	49.2	38.1	
			2015	28.3	51.3	25.8	50.3	
		SDN Jogotruran (Inti)	2013	59.7	52.6	58.9	54.9	
			2015	73.1	61.7	56.9	59.4	
		SDN Kutererenon 01 (Inti)	2013	44.1	60.6	52.6	55.8	
			2015	74.5	61.3	52.5	61.0	
Comparison	MI Nurul Islam Kota	2013	44.9	55.6	64.3	47.2		

Province	District	Sample	School Name	Year	Grade 4			Grade 5		
					Bahasa Indonesia		Math (%)	Science (%)		
					Reading (%)	Writing (%)				
			Lumajang	2015	52.1	63.3	49.4	63.2		
			SDN Dawuhan Lor 1	2013	42.5	42.1	45.6	50.3		
				2015	37.9	48.1	37.2	55.8		
			SDN Kepuhharjo 2	2013	47.5	49.5	47.7	52.6		
				2015	64.8	66.3	60.3	56.6		
			SDN Tompokersan 3	2013	47.9	38.3	55.5	56.3		
			2015	58.6	68.7	58.1	54.9			
		Ngawi, Kab.	Partner	MIN Mlarik Baderan	2013	47.9	22.9	44.6	32.0	
					2015	57.1	64.5	56.9	48.0	
				SDN Guyung 2	2013	58.1	62.3	56.7	41.9	
					2015	47.9	54.5	52.9	44.0	
				SDN Tambakromo 1	2013	47.8	54.1	50.8	47.8	
				2015	50.7	61.9	64.0	42.3		
		Comparison	SDN Widodaren 1	2013	23.6	38.0	35.8	34.5		
				2015	48.4	51.7	55.8	50.9		
			MIN Gelung Paron	2013	45.9	46.4	58.3	39.8		
				2015	57.4	46.5	51.0	56.9		
			SDN Kendung	2013	47.6	25.0	38.8	43.8		
				2015	43.9	45.5	44.7	39.6		
			SDN Klitik 1	2013	39.9	56.4	44.1	42.9		
				2015	62.1	68.0	51.7	46.3		
			SDN Paron 1	2013	45.2	60.0	60.0	32.2		
				2015	38.9	35.5	54.6	35.6		
			South Sulawesi	Bone, Kab.	Partner	SD Inpres 10/73 Bajoe	2013	63.8	42.5	40.3
						2015	40.5	37.5	45.1	38.7
SD Inpres 12/79 Lonrae	2013	27.5				31.5	25.5	21.3		
	2015	19.9				3.1	32.3	19.2		
SD Inpres 6/75 Pacing	2013	45.6				13.3	34.4	61.4		
	2015	49.4				19.2	58.3	27.7		
	Comparison	SD Inpres 6/80 Latteko		2013	41.4	34.0	49.2	11.9		
				2015	29.8	7.8	46.8	21.1		
		SDN 17 Bajoe		2013	36.9	50.0	35.2	47.2		
				2015	33.4	47.7	36.0	28.4		
		SDN 20 Panyula		2013	42.0	47.5	33.3	19.2		
				2015	29.5	20.3	32.0	30.6		
Parepare, Kota	Partner	SDN 48 Pacing	2013	47.8	30.0	39.9	25.7			
			2015	23.4	23.6	40.5	29.9			
		SDN 50 Jaling	2013	40.3	19.3	51.2	23.6			
			2015	37.0	38.2	27.7	31.0			
		MI DDI Ujung Lare	2013	34.4	28.6	24.7	53.9			
			2015	66.4	63.0	38.2	37.7			
		Comparison	SDN 12 Parepare	2013	17.9	20.8	36.6	46.6		
				2015	77.4	64.8	61.4	42.9		
			SDN 34 Parepare	2013	55.6	39.4	30.4	35.3		
				2015	50.2	54.4	34.3	41.4		
			SDN 35 Parepare	2013	43.3	36.6	33.7	34.4		
				2015	56.2	50.3	39.3	37.6		
Takalar, Kab.	Partner	MI DDI Labukang	2013	32.1	39.3	20.2	27.8			
			2015	40.4	47.0	23.8	15.5			
		SDN 28 Bacukiki	2013	33.6	22.7	30.7	28.9			
			2015	46.9	41.9	40.6	48.3			
		SDN 43 Soreang	2013	31.3	35.0	30.1	36.0			
			2015	43.1	44.7	24.7	45.0			
			SDN 55 Ujung	2013	34.4	28.9	32.1	28.7		
				2015	81.0	67.1	76.7	40.0		
			MIN Galesong Utara	2013	21.4	11.5	22.9	7.8		
				2015	15.8	5.4	24.0	18.7		
			SDN 103 Inpres Sompu	2013	40.2	40.0	34.7	36.0		
				2015	31.3	46.9	37.0	61.1		

Province	District	Sample	School Name	Year	Grade 4			Grade 5
					Bahasa Indonesia		Math (%)	Science (%)
					Reading (%)	Writing (%)		
			SDN 226 Inpres Lanna	2013	14.3	0.0	12.8	14.1
			2015	23.6	15.3	11.0	15.3	
			SDN 234 Takalar kota	2013	43.8	35.0	41.0	16.6
			2015	39.3	11.4	27.5	23.2	
		Comparison	SDN 147 Inpres Pa'lalakkang	2013	43.8	6.3	0.0	19.6
				2015	18.8	13.8	17.2	13.3
			SDN 150 Inpres Tamala'rang	2013	26.8	7.5	26.6	51.0
				2015	58.4	62.7	13.6	59.2
			SDN 151 Inpres Kalampa	2013	34.7	32.1	52.1	32.5
				2015	36.2	37.9	31.8	19.3
		SDN 190 Inpres Bura'ne	2013	14.7	7.5	3.0	10.1	
			2015	42.9	11.5	32.3	14.1	
	Tana Toraja, Kab.	Partner	MIN Makale	2013	22.3	40.4	23.7	31.4
				2015	44.6	48.9	25.0	41.3
			SDN 102 Makale 5	2013	41.1	55.9	36.4	40.3
				2015	62.8	35.0	42.6	38.1
			SDN 183 Inpres Balla Bittuang	2013	30.7	40.8	28.3	30.3
				2015	54.5	53.8	32.8	34.0
			SDN 187 Bittuang	2013	21.4	27.5	13.9	38.6
				2015	54.5	50.9	32.6	28.3
		Comparison	SDN 120 Buntu Masakke	2013	34.4	47.7	31.9	35.3
				2015	32.4	36.1	35.0	29.0
			SDN 126 Garampa	2013	19.4	10.6	21.3	18.3
				2015	30.2	35.0	12.9	26.0
SDN 161 Leppan	2013	19.0	10.0	8.1	29.2			
	2015	36.0	25.0	30.2	30.3			
SDN 184 Inpres Ulusalu	2013	22.5	24.1	25.0	28.4			
	2015	50.2	14.5	39.3	23.8			

### Average Junior Secondary School Scores by School (%)

Province	District	Sample	School Name	Year	Grade 8			
					Bahasa Indonesia		Math	Science
					Reading	Writing		
Aceh	Aceh Barat Daya, Kab.	Partner	MTsN Unggul Susoh	2013	68.8	45.6	30.0	32.8
				2015	71.4	59.0	52.6	39.7
			SMPN 1 Blang Pidie	2013	47.4	33.2	22.4	28.5
				2015	72.5	77.5	50.0	43.2
			SMPN Unggul Tunas Nusa	2013	76.2	44.3	49.5	45.2
				2015	78.3	66.0	55.0	61.2
		Comparison	MTsN Kuala Bate	2013	62.9	61.6	16.9	46.8
				2015	60.3	59.7	21.8	29.9
			SMPN 3 Susoh	2013	70.8	68.0	19.0	35.8
				2015	54.0	35.6	21.6	34.3
			SMPS Babul Istiqamah	2013	49.4	41.1	21.0	28.5
				2015	68.9	39.2	23.1	21.5
	Aceh Tamiang, Kab.	Partner	MTsN Banyak Payed	2013	48.3	40.3	15.7	36.6
				2015	76.4	43.3	43.2	44.4
			SMPN 1 Kejuruan Muda	2013	59.3	41.7	22.7	36.1
				2015	71.0	42.7	34.3	43.6
			SMPN 4 Percontohan	2013	69.7	46.0	33.9	52.4
				2015	80.4	53.2	57.3	39.8
		Comparison	MTsS Yaspendi Sungai Iyu	2013	45.0	39.3	14.3	33.5
				2015	73.5	39.5	40.0	37.7
			SMPN 1 Banyak Payed	2013	52.1	30.4	24.3	26.3
				2015	72.9	42.5	26.8	35.7
			SMPN 2 Kualasimpang	2013	54.7	29.7	16.8	27.7
				2015	72.9	42.5	35.0	34.5
	Aceh Utara, Kab.	Partner	MTsN Seunuddon	2013	44.5	21.0	14.4	12.7
				2015	70.0	30.0	30.5	18.1
			SMPN 1 Seunuddon	2013	48.5	36.5	22.0	22.1
				2015	66.0	49.8	29.5	6.5
			SMPN 1 Tanah Jambo Aye	2013	64.5	46.5	24.7	27.6
				2015	59.8	47.5	35.8	14.5
Comparison		MTsN Sampoiniet	2013	40.8	18.4	13.2	12.1	
			2015	53.5	4.5	16.4	15.1	
		SMPN 1 Baktiya	2013	42.8	33.5	12.6	22.5	
			2015	50.0	41.3	28.8	15.1	
		SMPN 2 Baktiya	2013	42.5	31.5	15.3	21.2	
			2015	71.0	33.5	28.0	20.3	
Pidie Jaya, Kab.	Partner	MTsN Ulim	2013	49.2	50.8	19.3	23.4	
			2015	45.8	47.2	26.7	22.5	
		SMPN 1 Meureudu	2013	52.5	54.7	32.1	53.5	
			2015	59.8	34.8	26.5	42.6	
		SMPN 3 Meureudu	2013	40.8	31.7	26.3	29.6	
			2015	51.7	31.3	26.3	21.8	
	Comparison	MTsN Trieng Gadeng	2013	60.0	30.0	31.4	26.9	
			2015	62.2	33.4	21.9	12.3	
		SMPN 1 Trieng Gadeng	2013	36.7	27.5	19.1	25.1	
			2015	43.9	49.2	23.4	38.5	
		SMPN 3 Bandar Dua	2013	40.9	38.2	17.3	13.9	
			2015	69.3	40.8	23.2	40.1	
North Sumatra	Langkat, Kab.	Partner	MTs Negeri Tanjung Pura	2013	81.3	60.7	27.8	39.1
				2015	67.2	60.3	36.3	45.5
			SMPN 1 Stabat	2013	78.7	63.7	54.8	49.5
				2015	76.9	50.6	50.0	54.5
			SMPN 1 Tanjung Pura	2013	66.7	51.7	22.5	42.1
				2015	56.6	35.9	26.5	37.4

Province	District	Sample	School Name	Year	Grade 8				
					Bahasa Indonesia		Math	Science	
					Reading	Writing			
		Comparison	MTs Swasta Sabibal Akhyar Binjai	2013	68.8	46.3	28.9	35.7	
			2015	71.8	49.0	31.4	40.1		
			SMPN 1 Binjai	2013	66.5	41.3	27.9	34.6	
			2015	65.3	31.3	36.3	36.9		
			SMPN 3 Hinai	2013	71.7	56.3	29.8	38.3	
		2015	70.6	38.4	36.2	39.3			
		Toba Samosir, Kab.	Partner	MTsN Balige	2013	55.0	53.2	26.1	34.0
				2015	63.8	27.5	27.1	31.9	
				SMPN 1 Laguboti	2013	61.3	61.7	29.6	39.9
		2015	54.7	52.3	48.2	38.4			
	SMPN 4 Balige	2013	71.7	63.3	31.7	38.1			
		2015	76.8	69.7	59.5	57.2			
	Comparison	SMPN 1 Satap Tampahan	2013	60.4	36.3	26.4	32.2		
		2015	52.2	40.3	34.7	29.1			
		SMPN 1 Sigumpar	2013	69.7	54.7	34.1	40.4		
		2015	70.3	62.0	70.2	41.1			
		SMPN 2 Satap Pargaolan	2013	47.5	38.8	17.5	29.6		
		2015	53.1	21.9	23.1	33.9			
Banten	Tangerang, Kab.	Partner	MTs Al Ikhlas Cisereh	2013	47.8	42.8	14.8	20.9	
			2015	57.7	37.0	25.5	34.6		
			SMPN 1 Cisoka	2013	59.7	58.2	31.2	30.6	
			2015	78.3	38.8	23.2	52.1		
			SMPN 3 Tigaraksa	2013	57.2	60.8	28.8	27.9	
			2015	71.0	42.3	27.7	45.4		
		Comparison	MTs Miftahul Anwar	2013	51.3	50.8	27.9	25.4	
			2015	60.0	71.8	24.3	28.2		
			SMPN 1 Jambe	2013	66.9	47.8	13.8	23.3	
			2015	62.5	35.0	21.3	33.1		
			SMPN 1 Panongan	2013	69.5	69.0	20.5	35.5	
			2015	76.8	45.3	28.8	45.3		
	Tangerang Selatan, Kota	Partner	MTs Pembangunan Nurul Islam	2013	76.9	61.3	44.1	48.4	
			2015	68.6	55.8	45.0	37.2		
			SMPN 16 Tangsel	2013	70.5	58.5	23.7	25.9	
			2015	76.5	37.5	29.3	59.6		
			SMPN 8 Tangsel	2013	87.1	81.1	61.7	79.0	
			2015	77.8	66.3	55.0	78.5		
		Comparison	MTs Jam'iyatul Islamiyah	2013	63.2	52.9	32.8	36.8	
			2015	82.8	49.4	33.0	56.4		
			SMPN 10 Tangsel	2013	77.1	50.5	35.3	47.8	
			2015	82.0	54.0	28.3	64.9		
			SMPN 5 Tangsel	2013	71.3	56.6	41.9	42.1	
			2015	72.5	47.5	29.0	54.3		
West Java	Bekasi, Kab.	Partner	MTs Nurul Huda	2013	76.3	49.3	30.0	28.1	
			2015	70.7	53.3	35.7	57.2		
			SMPN 1 Cikarang Pusat	2013	80.5	69.3	62.0	57.5	
			2015	76.3	75.0	39.7	33.2		
			SMPN 1 Cikarang Selatan	2013	76.7	65.7	53.3	54.0	
		2015	79.3	58.3	47.0	59.5			
		Comparison	MTs Al Islah	2013	57.8	32.8	21.3	21.2	
			2015	69.0	85.0	23.3	53.1		
			SMPN 1 Cikarang Timur	2013	60.0	38.4	20.2	22.9	
			2015	77.3	51.7	22.0	52.7		
	SMPN 2 Cikarang Utara		2013	84.7	64.4	52.9	56.2		
	2015	78.3	52.0	29.0	40.5				
	Cirebon, Kab.	Partner	MTsN Cisaat	2013	65.3	47.9	36.4	31.9	
			2015	77.7	62.7	33.3	21.9		
SMPN 1 Plered			2013	80.7	32.1	37.1	31.9		
2015			80.7	32.1	37.1	31.9			

Province	District	Sample	School Name	Year	Grade 8				
					Bahasa Indonesia		Math	Science	
					Reading	Writing			
				2015	68.7	69.0	57.0	34.7	
			SMPN 2 Plered	2013	76.1	65.6	47.1	46.4	
				2015	66.7	48.3	56.7	27.6	
			Comparison	MTsN Palimanan	2013	68.8	27.6	32.4	37.3
					2015	66.0	29.3	54.0	34.6
				SMPN 1 Weru	2013	68.0	37.8	45.8	43.8
			2015	75.3	59.7	60.0	38.0		
		SMPN 2 Weru	2013	63.4	35.5	38.0	40.9		
				2015	66.9	65.0	30.3	33.0	
		Kuningan, Kab.	Partner	MTsN Sangkanhurip	2013	84.5	63.8	50.8	41.7
					2015	68.5	36.5	43.0	46.2
	SMPN 1 Cilimus			2013	76.5	70.0	62.6	56.9	
				2015	72.8	63.3	35.0	62.6	
	SMPN 2 Garawangi			2013	81.6	64.7	64.7	57.3	
				2015	73.8	42.4	43.4	59.9	
	Comparison		MTsN Jalaksana	2013	64.7	35.0	54.3	34.0	
				2015	77.5	77.5	60.0	67.5	
			SMPN 1 Jalaksana	2013	67.2	45.3	47.3	31.1	
				2015	66.7	74.6	70.0	66.6	
			SMPN 2 Sindangagung	2013	59.8	36.0	55.8	21.5	
				2015	73.2	50.9	31.0	55.7	
	Tasikmalaya, Kab.	Partner	MTsN Pamoyanan	2013	69.7	36.7	29.7	38.3	
				2015	87.0	41.0	76.1	52.6	
			SMPN 2 Singaparna	2013	72.9	40.3	30.0	40.2	
				2015	91.3	55.0	59.3	47.2	
			SMPN Padakembang	2013	73.9	37.9	39.6	45.4	
				2015	77.7	67.7	55.7	49.8	
		Comparison	MTsN Sukamanah	2013	66.8	30.8	38.2	41.5	
				2015	73.1	48.1	48.6	54.0	
SMPN 1 Sukarame			2013	82.0	31.3	65.7	59.2		
			2015	69.5	41.1	20.0	36.0		
SMPN 2 Mangunreja			2013	61.2	33.8	27.7	35.9		
			2015	83.7	59.0	71.7	63.1		
Central Java	Pekalongan, Kab.	Partner	MTsN Kesesi	2013	70.4	53.1	22.3	32.1	
				2015	63.0	41.1	28.1	40.2	
			SMPN 2 Wonokerto	2013	77.2	58.4	32.6	46.1	
				2015	69.8	45.9	33.7	43.3	
			SMPN 3 Kajen	2013	72.6	66.8	26.6	39.6	
				2015	76.0	55.7	40.7	46.7	
		Comparison	MTs NU Tirto	2013	74.0	63.2	28.8	37.5	
				2015	71.2	45.2	41.7	47.5	
			SMPN 1 Karanganyar	2013	77.7	42.5	36.8	50.1	
				2015	59.3	28.9	24.6	42.5	
			SMPN 2 Kedungwuni	2013	76.9	70.7	43.6	50.0	
				2015	78.2	42.0	36.1	52.5	
	Wonosobo, Kab.	Partner	MTs Ma'arif Garung	2013	69.7	68.3	50.0	48.6	
				2015	71.6	62.5	41.7	51.7	
			SMPN 1 Garung	2013	77.1	71.4	67.1	51.0	
				2015	66.0	36.8	39.4	45.5	
			SMPN 3 Kertek	2013	58.6	38.9	24.3	52.1	
				2015	64.7	49.7	31.7	53.0	
		Comparison	MTs Ma'Arif Kejajar	2013	73.3	60.0	47.4	56.3	
				2015	66.5	31.0	37.4	47.0	
			SMPN 1 Mojotengah	2013	75.8	67.3	39.3	55.7	
				2015	77.4	59.5	55.0	56.2	
			SMPN 2 Selomerto	2013	81.5	62.0	65.8	60.0	
				2015	77.6	52.6	40.5	61.0	

Province	District	Sample	School Name	Year	Grade 8				
					Bahasa Indonesia		Math	Science	
					Reading	Writing			
East Java	Lumajang, Kab.	Partner	SMPN 2 Sukodono	2013	67.5	63.9	36.9	48.4	
				2015	69.7	63.7	41.5	55.9	
			SMPN 4 Lumajang	2013	73.2	56.8	44.4	47.3	
				2015	79.3	62.0	46.0	55.6	
		Comparison	MTsN Lumajang	2013	83.0	57.0	57.0	60.5	
				2015	65.7	66.7	69.3	51.2	
			SMPN 1 Lumajang	2013	85.0	72.9	73.2	60.1	
				2015	90.7	86.0	90.0	72.9	
			SMPN 1 Sukodono	2013	88.6	64.5	64.1	64.2	
				2015	87.0	83.3	69.0	73.9	
	Ngawi, Kab.	Partner	MTs Satu Atap Mlarik Baderan	2013	75.4	39.3	31.2	47.5	
				2015	80.0	56.5	35.7	41.1	
			SMPN 1 Kwadungan	2013	62.5	46.0	33.0	44.4	
				2015	70.0	62.3	30.0	54.0	
			SMPN 2 Geneng	2013	78.0	67.0	51.7	43.8	
				2015	72.8	33.3	29.0	37.5	
		Comparison	MTsN 1 Paron	2013	90.0	53.1	70.8	59.1	
				2015	85.7	61.0	51.7	46.9	
			SMPN 2 Paron	2013	73.3	44.3	23.9	36.5	
				2015	72.9	43.8	24.6	48.8	
SMPN 3 Ngawi	2013	76.5	38.5	30.0	48.8				
	2015	76.0	67.3	44.3	26.2				
South Sulawesi	Bone, Kab.	Partner	SMPN 1 Awangpone	2013	59.4	37.2	21.8	18.9	
				2015	65.0	42.5	21.7	28.6	
			SMPN 4 Barebbo	2013	52.5	42.1	25.8	25.1	
				2015	66.7	52.5	39.1	31.5	
			Comparison	SMPN 2 Awangpone	2013	58.7	37.7	24.4	19.9
					2015	63.3	36.1	24.1	36.6
		SMPN 2 Watampone		2013	62.3	44.3	24.7	29.7	
				2015	60.5	39.8	42.6	28.1	
		SMPN 3 Palakka	2013	48.5	29.5	18.5	23.6		
			2015	52.5	30.3	24.4	36.8		
	Parepare, Kota	Partner	MTsN Parepare	2013	59.7	25.0	23.1	32.5	
				2015	60.6	34.4	18.9	49.5	
			SMPN 3 Parepare	2013	68.8	42.8	29.0	40.2	
				2015	61.4	49.2	35.5	48.7	
			SMPN 4 Parepare	2013	54.7	32.2	19.4	36.7	
				2015	65.0	40.4	30.8	30.5	
		Comparison	MTs DDI Taqwa Parepare	2013	49.1	23.6	20.6	30.2	
				2015	56.3	35.0	37.3	38.4	
			SMPN 10 Parepare	2013	65.6	27.8	26.6	36.3	
				2015	66.1	49.7	22.6	43.2	
	SMPN 2 Parepare	2013	76.5	42.5	52.0	36.8			
		2015	70.3	61.3	43.1	54.4			
	Takalar, Kab.	Partner	SMPN 1 Takalar	2013	58.6	37.2	29.7	21.1	
				2015	53.7	17.3	22.0	30.9	
			SMPN 2 Takalar	2013	78.3	40.5	36.8	32.5	
				2015	68.8	32.1	27.9	42.5	
			Comparison	SMPN 1 Galesong Utara	2013	56.5	23.8	25.0	18.0
					2015	64.2	38.2	18.2	35.1
SMPN 1 Mapakasunggu		2013		48.4	18.7	15.8	11.4		
		2015		61.8	35.3	32.5	30.9		
SMPN 3 Takalar		2013	55.8	25.8	20.7	13.7			
		2015	64.1	31.8	27.9	32.5			
Tana Toraja, Kab.	Partner	SMPN 3 Bittuang	2013	35.6	35.0	24.5	19.1		
			2015	75.8	66.5	27.9	23.4		
		SMPN 5 Makale	2013	44.6	32.3	17.9	38.3		

Province	District	Sample	School Name	Year	Grade 8			
					Bahasa Indonesia		Math	Science
					Reading	Writing		
				2015	67.7	55.0	23.5	42.1
		Comparison	SMPN 2 Rantetayo	2013	43.7	31.3	23.5	36.7
				2015	69.6	46.2	20.8	32.9
				2013	39.3	34.3	16.0	25.9
			SMPN 2 Saluputi	2015	63.9	35.0	26.3	38.8
				2013	47.3	32.3	20.8	34.7
				2015	81.7	50.3	56.1	37.7

## **Annex 2. Comparison between USAID PRIORITAS and Previous Projects on these Tests**

The table on the next page and the charts on the following pages summarize the results of tests used by USAID PRIORITAS when they were used under other, previous projects. The results of three other tests not used by USAID PRIORITAS are also included. These are a reading word-recognition test and a reading comprehension test for grade 1 students, which have been replaced by the EGRA and an English language test for grade 8.

The projects that have used these tests and for which results are available include:

- Creating Learning Communities for Children (CLCC), managed by the United Nations Children’s Fund (UNICEF) and the United Nations Educational, Scientific and Cultural Organization (UNESCO), and funded by the New Zealand Agency for International Development (NZAID) and others from 1999 to 2010
- Managing Basic Education (MBE), managed by RTI International and funded by USAID from 2003 to 2007
- Mainstreaming Good Practices in Basic Education (MGP-BE), managed by UNICEF and funded by the European Union (EU) from 2007 to 2010
- Decentralized Basic Education 3 (DBE3), managed by Save the Children and funded by USAID from 2005 to 2011
- USAID PRIORITAS, managed by RTI International and funded by USAID from 2013 to the present (2015)

Following are some general remarks about the results:

- The schools surveyed include only project partner schools, not comparison or control-group schools
- Where projects worked mainly or wholly in provinces in Java (such as MBE), the results are considerably higher than projects that worked mainly outside Java (CLCC and MGMP-BE).
- Students’ results in primary school across all subjects are considerably higher where large proportions of students attended pre-school (TK). It is also significant that pre-school participation is higher in Java than elsewhere, which may explain some or much of the better results from projects working in Java. Students who have attended TK appear to have largely mastered word recognition by the time they enter grade 1.

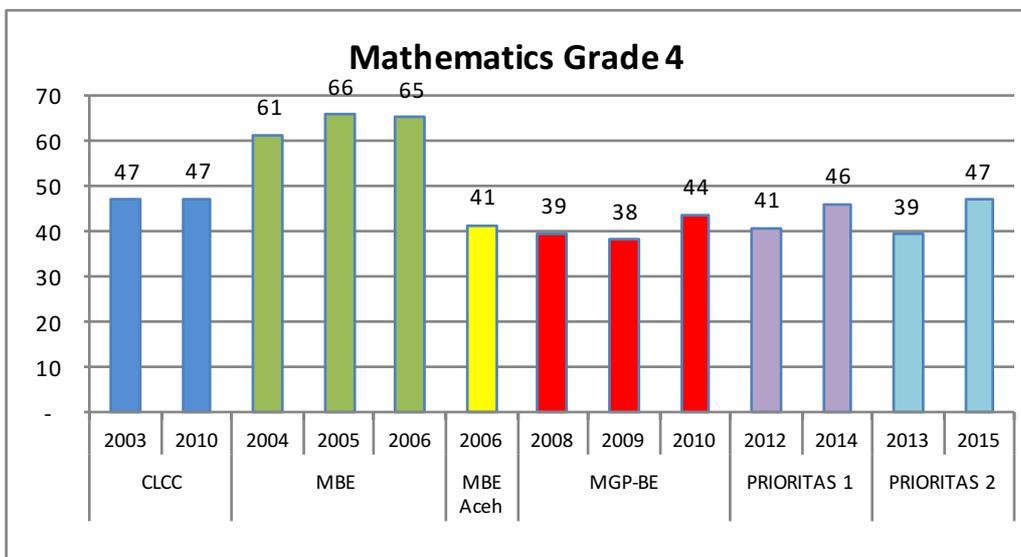
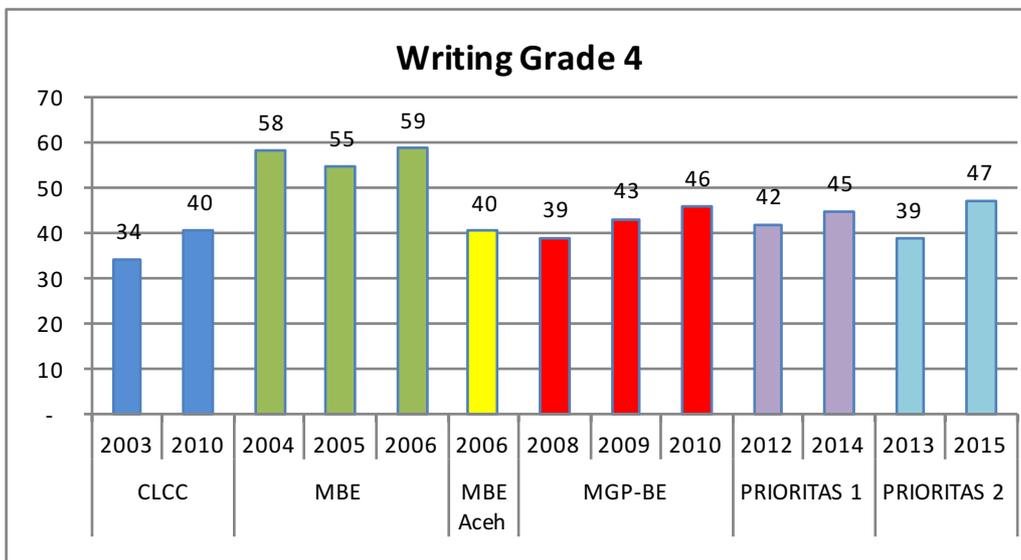
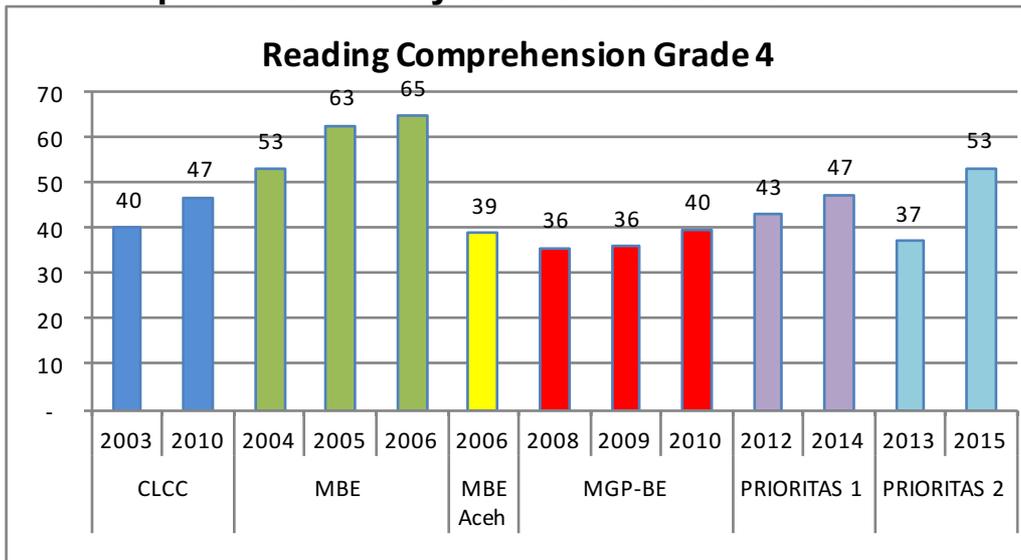
There are three factors in the various testing programs that may have influenced final scores in ways that are, at present unknown, and so comparisons must be made with caution.

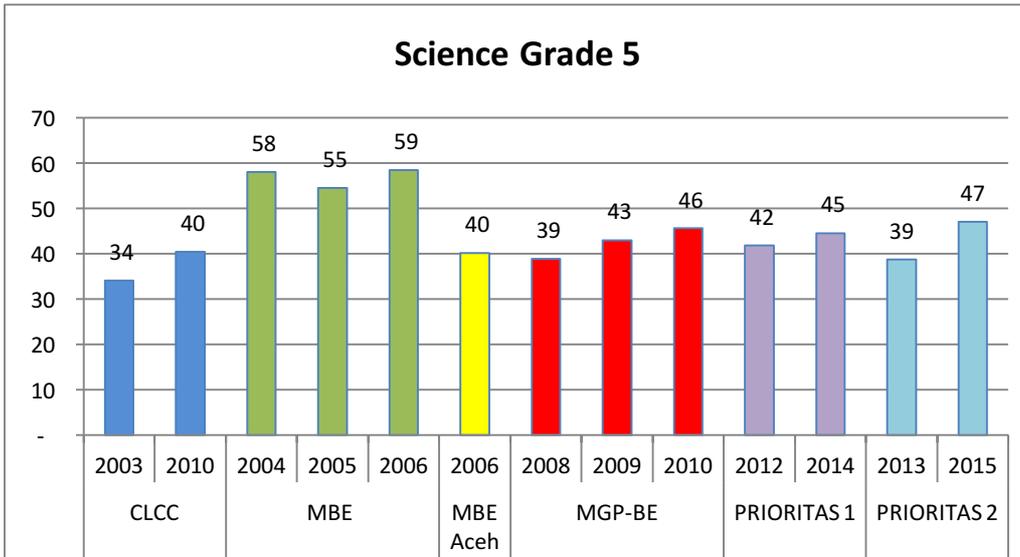
- The primary school mathematics test was partially revised in 2004 after experience of using it on CLCC.
- The grade 8 Mathematics test was somewhat simplified for the USAID PRIORITAS and MGMP-BE districts, based on experience of its use in MBE.

## Average Test Scores from Various Projects

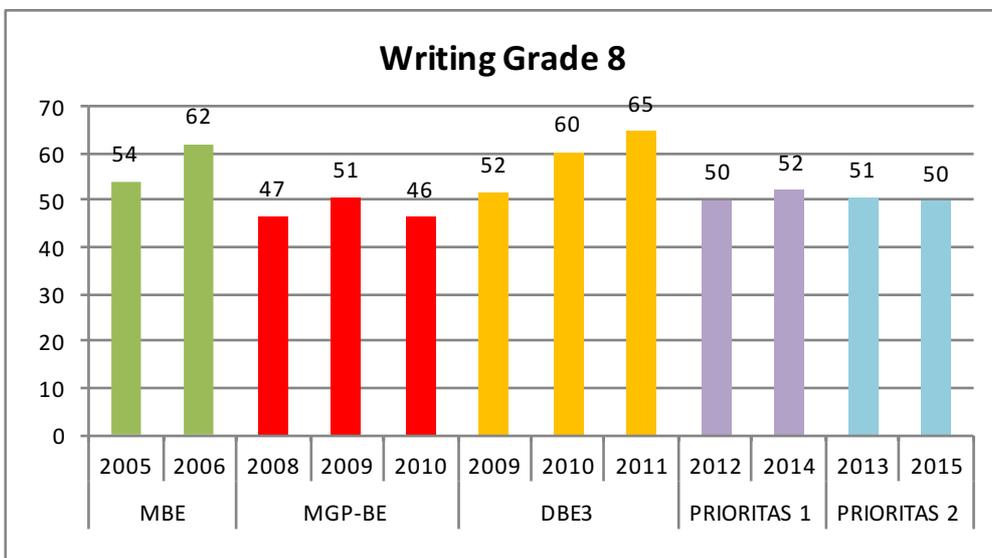
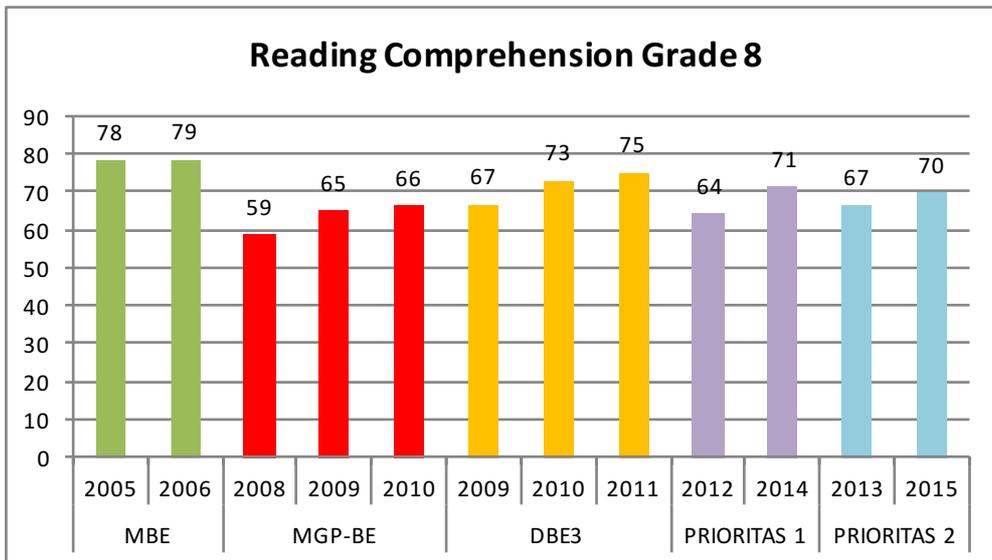
PROJECT NAME	CLCC		MBE					MGP-BE			DBE3			PRIORITAS				
	1	2	Phase 1			Phase 2		Aceh	1	2	3	1	2	3	Cohort1		Cohort 2	
Round of Testing	1	2	1	2	3	1	2	1	1	2	3	1	2	3	1	2	1	2
Year of Testing	2003	2010	2004	2005	2006	2005	2006	2006	2008	2009	2010	2009	2010	2011	2012	2014	2013	2015
# of provinces (of which on Java)	6 (2)	6 (2)	2 (2)	2 (2)	2 (2)	2 (2)	2 (2)	1 (0)	6 (1)	6 (1)	6 (1)	6 (4)	6 (4)	6 (4)	7 (4)	7 (4)	7 (4)	7 (4)
<b>PRIMARY SCHOOLS ASSESSMENTS</b>																		
# of districts (of which on Java)	15 (5)	15 (5)	9 (9)	9 (9)	9 (9)	11 (11)	11 (11)	2 (0)	12 (2)	12 (2)	12 (2)	25 (15)	25 (15)	25 (15)	23 (15)	23 (15)	20 (10)	20 (10)
# of schools surveyed	45	45	54	54	54	66	66	20	72	72	72				92	92	80	80
% of Children with pre-school	42.4	66.4	90.7	92.7	92.5	91.3	95.7	81.7	55.2	57.9	71.0				78.8	78.9	80.9	
Reading Word Recognition, Grade 1	47.1	71.3	87.3	91.4	94.6	87.9	91.9	50.4	56.4	61.9	70.6							
Reading Comprehension Grade 1	20.5	59.4	60.8	61.8	67.6	56.6	63.8	23.8	19.9	20.2	30.4							
Reading Comprehension Grade 4	40.1	46.9	53.0	62.8	64.8	59.9	61.4	38.8	35.7	35.9	39.6				43.0	47.3	37.1	53.4
Writing Grade 4	34.1	40.4	58.1	54.5	58.5	51.0	58.2	40.2	38.9	43.0	45.6				41.8	44.6	38.7	47.1
Mathematics Grade 4	47.0	47.0	61.1	65.5	65.0	64.7	65.0	41.3	39.4	38.1	43.7				40.7	46.0	39.2	47.0
Science Grade 5	28.8	39.8	44.3	50.4	53.4	48.8	54.5	29.0	28.1	28.9	31.9				35.8	43.2	33.8	42.0
<b>JUNIOR SECONDARY SCHOOL ASSESMENTS</b>																		
# of districts (of which on Java)						20 (20)	20 (20)		12 (2)	12 (2)	12 (2)	25 (15)	25 (15)	25 (15)	23 (15)	23 (15)	20 (10)	20 (10)
# of schools surveyed						60	60		36	36	36	54	54	54	69	69	56	56
Reading Comprehension Grade 8						78.3	78.5		58.7	64.9	66.2	66.6	73.0	75.1	64.0	71.2	66.5	69.6
Writing Grade 8						54.1	62.1		46.6	50.6	46.4	51.6	60.4	64.7	50.1	52.0	50.6	49.8
Mathematics Grade 8						36.7	35.2		23.3	26.7	27.4	32.0	41.7	47.4	33.9	36.6	34.3	38.1
English Grade 8						41.4	45.7		26.0	26.4	27.4	38.4	49.7	46.8				
Science Grade 8															38.4	43.8	39.3	42.1
<b>PROVINCES</b>	Central & East Java, South Sulawesi, NTT, NTB & Papua		Central & East Java					Aceh	Riau, Lampung, Banten, NTB, Gorontalo, Maluku			N. Sumatra, Banten, West, Central & East Java, South Sulawesi			Aceh, N. Sumatra, Banten, West, Central & East Java, South Sulawesi			

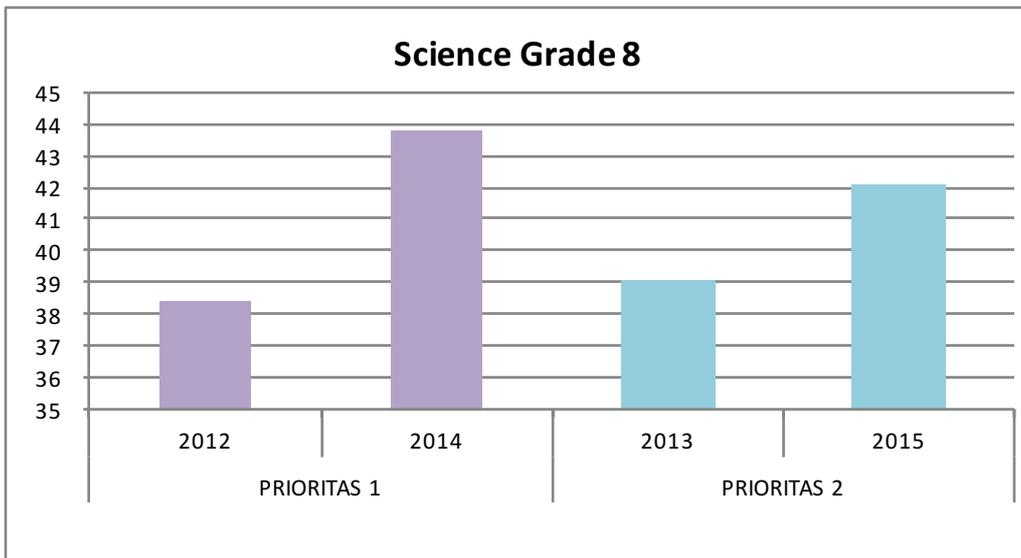
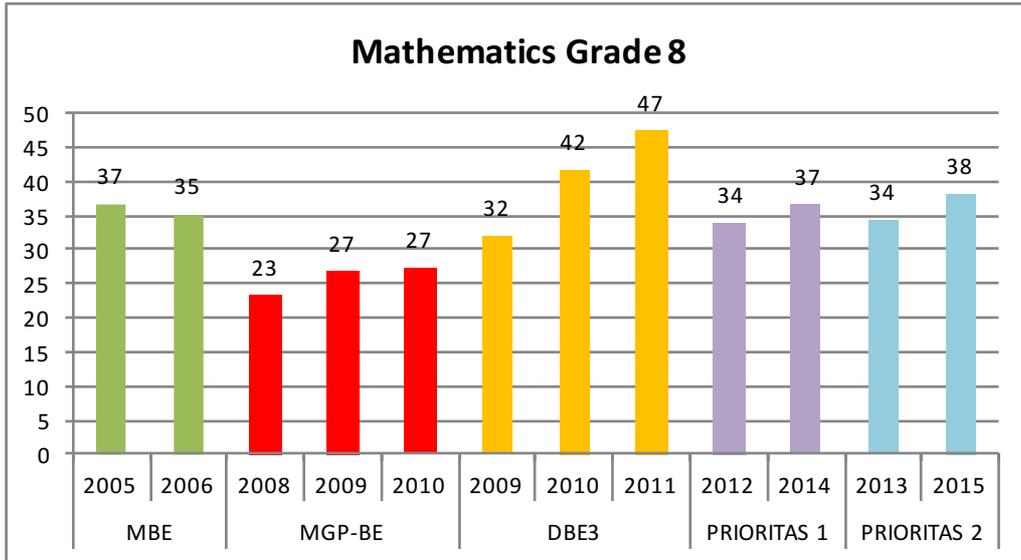
## Comparative Primary School Assessment Results





## Comparative Junior Secondary School Assessment Results





**Note:** The Grade 8 Science test was newly introduced for the USAID PRIORITAS program and has not be used in any other programs

## Annex 3. Summary of the Tests and their Development

Test	Development History	Broad Competencies Assessed	Notes on the Tests
<b><u>Reading Grade 1</u></b> Test 1 Test 2	Developed by Muhlisoh (Puskur), Elizabeth Sweeting and Stuart Weston in 1996	Word recognition Simple comprehension	The tests are administered orally to 12 grade 1 children in each class, chosen at random Words in the word recognition test are taken from the grade 1 reading book. Only students able to complete test 1 are asked to do test 2
<b><u>Bahasa Indonesia Grade 4</u></b> Reading	Developed by Muhlisoh (Puskur) and Elizabeth Sweeting and Stuart Weston in 1996.	Finding information in a passage Inferring information Predicting future events	The reading test is based around comprehension of a story. The writing test is based on an essay about a picture. The test is administered to half the class, while the other half takes part in the mathematics test (max. 20 per school)
Writing		Handwriting Spelling Punctuation Ability to express ideas logically Length of writing	
<b><u>Mathematics Grade 4</u></b>	Revised substantially in 2004 by Ujang Sukandi (Puskur) and Ar. Asari (UM)	Various of operations of whole numbers and fractions Number series Shape Length Solving problems (money, shape, number series)	The questions have a mixture of multiple choice, closed ended calculation, problem solving and open-ended problems requiring creativity The test is administered to half the class, while the other half takes part in the B. Indonesia test (max. 20 per school)
<b><u>Science Grade 5</u></b>	Designed in 1996 by Gunadi (Puskur) Minor revisions in 2002 and 2004 by Masjudi (Puskur), Sup. Koes (UM) and Andreas Priyono (UNES)	Air Water Plants and animals Food chain Force and energy Resources etc. Process skills including observing,	This test is divided into two sections. Section A used the format familiar to students of multiple choice questioning to assess children's understanding of concepts they have already learnt. Section B assesses children's active learning or process skills such as the ability to observe, interpret and hypothesize and requires the children to apply basic science concepts to

Test	Development History	Broad Competencies Assessed	Notes on the Tests
		interpreting data and hypothesizing	everyday situations.
<b>Bahasa Indonesia Grade 8</b> Reading	Developed in 2004 by Wahyudi (ex-Puskur), Moh. Najid (UNESA) and Lynne Hill (MBE)	Finding information in a passage Inferring information Predicting future events	The reading test is based around comprehension of a story. It includes multiple choice, right and wrong and essay style answers.
Writing		Paragraphs Sentencing Quality of ideas Spelling and punctuation Handwriting	The writing test is based on an essay about a picture. The test is administered to half the class, while the other half takes part in the mathematics test (max. 20 per school)
<b>Mathematics Grade 8</b>	Developed in 2004 by Ujang Sukandi (Puskur) and Ar. Asari (UM). Revised 2008 by Ujang Sukandi and Eddy Budiono (UM)	Number operations Graphs and maps Geometry and angles Measurement Problems solving using a variety of concepts	The test is divided into a multiple choice answer section and an open ended answer section based around problem solving. The questions have a mixture of multiple choice, closed ended calculation, problem solving and open-ended problems requiring creativity The test is administered to half the class, while the other half takes part in the B. Indonesia test (max. 20 per school)
<b>Science Grade 8</b>	Developed in 2013 by Ferdy Rondonuwu (Universitas Satya Wacana, Salatiga) and Hadi Suwono (Universitas Negeri, Malang)	Classifying animals and plants Buoyancy Expansion and contraction Evaporation and condensation Process skills including measurement of length, weight and volume, observing, interpreting data and hypothesizing	This test is divided into two sections. Section A used the format familiar to students of multiple-choice questioning to assess children's understanding of concepts they have already learnt. Section B assesses children's active learning or process skills such as the ability to observe, interpret and hypothesize and requires the children to apply basic science concepts to everyday

Note: UM=Universitas Negeri Malang; UNESA=Universitas Negeri Surabaya