



USAID | **MALAWI**
FROM THE AMERICAN PEOPLE

PRIMARY SCHOOL SUPPORT PROGRAM: A SCHOOL FEES PILOT (PSSP:SFP)

PUPIL ASSESSMENT FOLLOW-UP DATA REPORT, 2007



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LIST OF ABBREVIATIONS

| | |
|----------|---|
| AIR | American Institutes for Research |
| ANCOVA | Analysis of Covariance |
| CRECCOM | Creative Centre for Community Mobilization |
| IRT | Item Response Theory |
| ISEL-K/1 | Illinois Snapshots of Early Literacy-K/1 |
| MANEB | Malawi National Examinations Board |
| MCM | Mobilization Corps of Malawi |
| MIE | Malawi Institute of Education |
| MWAI | Miske Witt and Associates Incorporated |
| OVC | Orphan and Vulnerable Children |
| PCAR | Primary Curriculum Assessment Reform |
| PEA | Primary Education Advisor |
| PSSP:SFP | Primary School Support Program: A School Fees Pilot |
| RS | Raw Score |
| S.E. | Standard Error |
| SEMA | Senior Education Methods Advisor |
| SS | Scaled Score |
| TDC | Teacher Development Center |
| USAID | United States Agency for International Development |
| ZOC | Zonal Coordinator |

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1. INTRODUCTION

1.1. Background on PSSP:SFP

Primary School Support Program: A School Fees Pilot (PSSP:SFP) is a three-year initiative funded by USAID/Malawi in collaboration with the Malawi Government. The American Institutes for Research (AIR), in its lead role implementing PSSP:SFP in Dowa district, is responding to the need to improve the quality of education and serve as a pilot under a US Congressional mandate to develop strategies to reduce the cost of schooling that hinders access to education, especially for the most vulnerable. PSSP:SFP is jointly implemented with the Creative Center for Community Mobilization (CRECCOM), Malawi Institute of Education (MIE), and Miske Witt and Associates, Incorporated (MWAI).

The core goal of PSSP:SFP is to achieve equitable access to quality basic education. To reach this goal, the project has the following objectives:

- Increase access to basic education and improve learning with special focus on orphans, vulnerable children, girls and children with special needs.
- Increase resources at the school level.
- Improve teaching and learning outcomes in schools in Dowa.

PSSP:SFP takes a holistic approach to achieving these goals. It works to improve the professional development of teachers as well as mobilize communities to become owners of the schools.

1.2. Purpose of PSSP:SFP pupil assessments

Given pupils are the ultimate beneficiaries under PSSP:SFP, the project assesses pupils' performance as a measure of its impact on student learning. To monitor this impact of PSSP:SFP, the project annually assesses standard 1 pupils in Chichewa and standard 6 pupils in mathematics and English. The baseline assessment was conducted in 2006 and the first follow-up assessment was conducted in 2007. In addition to being conducted in Dowa, the PSSP:SFP implementation district, the assessments are also given to a sample of comparison schools in Dedza district.

1.3. Overview of technical report

This report provides the technical documentation on the development, administration, and analysis of the PSSP:SFP 2007 pupil assessments, and presents the 2007 results, with comparisons to 2006. The Pupil Assessment Baseline Data Report (2006) provides further information on the development of the assessment framework and test specifications, and baseline assessment results.



2. INSTRUMENT DESIGN AND DEVELOPMENT

2.1. Standard 6 English and mathematics assessments

A subset of the items in the 2006 baseline assessments was retained to be used again in 2007: 14 items for English and 15 items for mathematics. The remaining baseline assessment items (26 for English and 25 for mathematics) were ‘released’ and new items were developed to replace them. The items retained from 2006 served as ‘linking’ or ‘anchor’ items and facilitated the statistical equating of the 2006 and 2007 forms (equating is further described in Appendix A). Two forms of 40 new items (more than twice as many as needed) per subject were developed by the AIR assessment team to be piloted.

All new items were reviewed in a workshop comprised of local Malawian teachers, Senior Education Methods Advisor (SEMA) from the Ministry of Education and zonal coordinators. The goal of the session was to ensure that the items aligned with the competencies in the syllabi, had language appropriate for standard 6 pupils, had adequate measurement properties and were free from error. All items were reviewed and discussed in the workshop. Feedback and suggestions were recorded on the Item Review Forms developed by the AIR assessment team.

Piloting items is critical in the development of a measurement instrument. Piloting provides information about the difficulty of each item, how well an item discriminates between low and high performers, and how well the item options are functioning. In May 2007 the piloted items were administered to approximately 1,100 pupils in 40 schools¹. AIR’s field staff, the zonal coordinators (ZOCs), were used as data collectors and scorers. Each constructed response item was scored as correct, incorrect, or missing. Multiple choice items were coded with the option chosen, as missing or as having more than one response chosen. The data were entered by 4 data entry specialists. The data files were then dispatched to AIR in Washington, DC for analysis.

Classical item analyses were conducted on the items. The analyses included the percent answering each item correctly, the percent selecting each distracter for multiple-choice items, the relationship between the response to each item and performance on the overall test form, and the test reliability. Some items were revised based on the results of the pilot, including rephrasing some questions, replacing or rephrasing distracters, and simplifying the language in the items. Approximately one third of the items piloted were selected for the 2007 assessments based on the items’ statistics and taking into consideration the content domains and cognitive levels the items assessed.

2.1.1 Content domains and cognitive categories for the standard 6 English assessment

The standard 6 English instrument includes two content domains: *reading* and *language structure*. In the assessment of reading, pupils were presented with several short reading selections, including narrative and non-narrative texts, and for each answered 2 to 4 questions requiring them to recall explicitly stated information in the text, to make an

¹ The pilot includes 562 learners for form A test booklet and 551 for form B test booklet. Each booklet includes both English and mathematics assessment

inference about something they read in a text, or to integrate ideas across a text to arrive at a conclusion or identify a referent item and its reference in text. Items assessing language structure included those in which pupils had to identify the appropriate spelling of a word, identify the appropriate possessive adjective, form an adverb from an adjective, and write the appropriate verb tense to complete a sentence.

In the standard 6 English instrument, items are also categorized by their cognitive demands, that is, what they ask pupils to do with the content. These demands have varying degrees of complexity--*basic*, *moderate*, to *high*. Items classified as “basic” typically ask pupils to produce factual knowledge about language structure or, when reading a text, to locate explicitly stated information in the text. Items classified as “moderate” make more demands upon pupils such as asking them to identify appropriate verb tenses for given sentences, or to make straightforward inferences based on what they have read in a text. Items classified as “high” include those that require pupils to apply knowledge of conjunctions to form or judge the correctness of sentences or integrating or connecting ideas across a text.

Table 2-1 presents the distribution of English items across content domains and different cognitive skill levels. Appendix B documents the content domain and cognitive level for each item.

Table 2-1 Number of Items for the 2007 Standard 6 English

| | Basic Complexity | Moderate Complexity | High Complexity | Total |
|---|------------------|---------------------|-----------------|-----------|
| Reading Comprehension Narrative Texts (75%) Non-Narrative (25%) | 14 | 6 | 4 | 24 (60%) |
| Language Structure & Use | 8 | 6 | 2 | 16 (40%) |
| Total | 22 (55%) | 12 (30%) | 6 (15%) | 40 |

2.1.2 Content domains and cognitive categories for the standard 6 mathematics assessment

The 2007 standard 6 mathematics instrument consists of four content domains and three cognitive categories. The *Numbers and Operations* was divided into two sub-domains: *Whole Number* and *Fraction/Decimal/Ratio*. The two sub-domains include test items that require pupils to do pure computation and to solve word problems involving computation with different operations. The *Geometry and Data* domain includes test items that require pupils to identify shapes, compare the degrees of angles, and read pictographs and determine the number of objects represented. The *Measurement* domain consists of test items that ask pupils to compute numbers in units of mass, volume, and time.

The cognitive levels of test items are classified as *knowledge*, *comprehension*, or *application*. These cognitive classifications reflect that pupils to being asked to demonstrate knowledge or comprehension of the materials, or to apply what they know and understand.²

Table 2-2 presents the distribution of mathematics items across content domains and different cognitive skill levels. Appendix B documents the content domain and cognitive level for each item.

Table 2-2 Number of Items for the 2007 Standard 6 Mathematics

| | Knowledge | Comprehension | Application | Total |
|------------------------|-----------------|-----------------|-----------------|-----------|
| Numbers & Operations | | | | |
| Whole Number | 4 | 5 | 5 | 14 (35%) |
| Fraction/Decimal/Ratio | 3 | 6 | 3 | 12 (30%) |
| Geometry & Data | 2 | 3 | 2 | 7 (17.5%) |
| Measurement | 3 | 2 | 2 | 7 (17.5%) |
| Total | 12 (30%) | 16 (40%) | 12 (30%) | 40 |

2.1.3 Item types of the 2007 standard 6 assessments

Like the 2006 assessments, two item types were used in the 2007 assessments: multiple-choice and short constructed response items. The numbers of the two types of items in each subject test were shown in Table 2-3. The distributions are very similar with the ones in the 2006 assessments.

Table 2-3 Number of Items Developed for the Baseline Standard 6 Assessment

| | Multiple-choice | Short constructed response | Total |
|-------------|-----------------|----------------------------|-------|
| English | 23 | 17 | 40 |
| Mathematics | 29 | 11 | 40 |

2.2. Standard 1 Chichewa literacy assessment

The standard 1 Chichewa literacy assessment was developed in 2006 by AIR assessment team in collaboration with Malawian teachers and content experts. The task/content domain and number of items in the assessment are presented in Table 2-4. The development process was described in the Pupil Assessment Baseline Data Report (2006). The same instrument was used in 2007 test administration. Unlike the standard 6 assessments, this instrument was administered one-on-one by project staff, so classroom teachers do not have access to this particular instrument. Thus, reusing the same instrument does not risk the validity of data collected.

² Adapted from Bloom, C. S. ed. (1956). *Taxonomy of educational objectives. The classification of educational goals: Handbook I, cognitive domain*. New York: David MacKay & Co.

Table 2-4 Task/Content Domain and Number of Items in Baseline Standard 1 Chichewa Literacy Assessment

| Section | Number of test items |
|---------------------------|----------------------|
| <i>Phonemic Awareness</i> | 8 |
| <i>Word Naming</i> | 3 |
| <i>Letter Sounds</i> | 10 |
| <i>Word Recognition</i> | 10 |
| Total | 31 |

3. PRINTING MATERIALS

PSSP:SFP sought the services of a company to print the 30 page standard 6 assessment booklets. A reputable printing company was identified after consultations with three printers. Two different booklets were made for the standard 6 assessments, one with English first the other with mathematics first. This was to prevent test fatigue from skewing the results of a particular subject and to prevent possible cheating by having different books distributed to the pupils. Tests were numbered and materials were packed into envelopes for each school. The test administrator was also given test administrator manuals for Chichewa and the standard 6 assessments that included the script and guidelines for administering the assessment.

4. SAMPLING SCHOOLS AND PUPILS FOR 2007 TEST ADMINISTRATION

4.1 Intervention vs. Comparison

Ideally, in order to scientifically determine the effectiveness of an intervention, an experimental design, with a randomized control/comparison group, should be used. However, in the reality of social science, a quasi experimental design is often implemented as an alternative approach when possible external influences cannot be controlled. With the quasi experimental design, the group difference in observed variables at baseline is often a concern while comparing the follow-up data between groups. A statistical method called the analysis of covariance (ANCOVA) is thus used in this project to compare the follow-up group difference by statistically controlling the initial group difference.

Dedza district was selected as a comparison district for PSSP:SFP because of its similarities with Dowa district. Dowa and Dedza, particularly in the northern/western region, have similar cultural beliefs (i.e. Gulewankulu), and are conservative in similar ways. Dedza borders the capital, Lilongwe, as does Dowa, but they do not border each other, thus minimizing cross over effects. They have similar population density, school ratios, and other comparable indicators. Few other agencies are supporting Dedza schools, although more so than Dowa and access to schools is often difficult just like in Dowa. Dedza is economically relatively better off, but Dowa is the bottom of most measures and therefore most districts will be better off than Dowa.

4.2 Sampling schools

The 13 zones within Dowa were subdivided further into clusters for project implementation purposes. A total of 59 clusters were developed with 2-5 schools per cluster. To ensure representation, one school per cluster was randomly selected to be in the intervention sample. For the comparison district, Dedza, 40 schools were randomly selected from zones in the north/western region that met the comparability criteria. The same schools that were sampled in 2006 were sampled in 2007, with one exception noted later.

4.3 Sampling Pupils

Pupils were randomly selected from Standards 1 and 6. For standard 1, 6 pupils (3 boys and 3 girls) were randomly selected in each school. These pupils were assessed at the school using a one-on-one administered assessment. For standard 6, thirty pupils in each school were also randomly selected from attendance registers. These pupils were assessed at the school using a group administered assessment. If the class was smaller than thirty pupils, all were included in the assessment. Sometimes the register indicated more than 30 pupils, however high absenteeism contributed to lower than desired sample sizes in a class. Gender was not a criteria in randomly selecting standard 1 pupils as the populations were nearly equal and the random selection would capture all pupils. The list of selected pupils was not disclosed to the teacher to prevent swapping pupils during the assessment, especially for standard 1 because this was a one-on-one assessment. Table 4-1 shows the sample sizes for the 2006 and 2007 test administration for all instruments.

Table 4-1 Sample Size for Standard 1 Chichewa, Standard 6 English and Math Assessments, in 2006 and 2007

| | 2006 Baseline | | 2007 Follow-up | |
|----------------------------|---------------|---------------|----------------|---------------|
| | # of School | # of Students | # of School | # of Students |
| <u>Standard 1 Chichewa</u> | | | | |
| Intervention (Dowa) | 59 | 354 | 59 | 354 |
| Comparison (Dedza) | 40 | 240 | 40 | 240 |
| <u>Standard 6 English</u> | | | | |
| Intervention (Dowa) | 59 | 1372 | 59 | 1616 |
| Comparison (Dedza) | 40 | 1084 | 40 | 1082 |
| <u>Standard 6 Math</u> | | | | |
| Intervention (Dowa) | 59 | 1372 | 59 | 1616 |
| Comparison (Dedza) | 40 | 1084 | 40 | 1082 |

5. FOLLOW-UP DATA COLLECTION IN 2007

PSSP:SFP collected data on pupil performance in Chichewa, mathematics and English in all the selected 59 schools of Dowa and 40 schools in Dedza for the 2007 school session. The collection took place in September 2007 at the start of term 3. All the PSSP:SFP zonal coordinators (ZOCs) were involved in data collection exercise. The data collection exercise started with a one-day training session. The training focused on how to sample pupils, conduct both the one-on-one and group administration assessments, classroom organization, test security, and how to deal with potential issues like cheating.

Notification had been made ahead of time to all schools and a schedule of schools distributed to data collectors. Upon arrival at the school, the ZOC met with the head teacher and started with the Chichewa assessment since standard 1 pupils leave earlier in the day. The test administrator identified a quiet place that had enough light and few distractions. To ensure that the pupils were concentrating, they sometimes had to set up the situation so that the child is facing away from visual distractions. The pupils were escorted out of the class by the teacher after the administrator called the name of the pupil to be assessed. The administrators spent a few minutes establishing rapport with the child to help him/her feel more comfortable. Approximately 30 minutes were allotted for assessing each of the 6 pupils in standard 1.

For standard 6, the ZOC used the standard 6 classroom. The administrator spaced the pupils far enough apart to minimize cheating and to allow room for monitoring. The ZOC distributed the assessment one at a time to each pupil, alternating the two forms. Pupils were allotted 90 minutes to take the test and given a 15 minute break between the two sections.

Each pupil that participated received a pencil. The standard 1 and 6 teachers and head teacher received a pen.

6. DATA ENTRY

A team of three data entry clerks was engaged to enter the pupil assessment baseline data. All the data entry took place on site at the Mponela field office in order to effectively monitor and support the data entry process in time. Data were entered and cleaned using MS Excel. A checking system was programmed in Excel to only allow valid codes to be entered.

When data came back from the field, the data entry team checked and recorded receipt of all assessment booklets, complete or incomplete, to maintain test security. The team entered data from one school at a time and upon completing a school, the score sheets were put back in the envelope which was then marked as entered and filed in a secure location.

7. ANALYSIS AND RESULTS

This chapter presents results of the 2007 assessments and compares pupil performance in 2007 with pupil performance in 2006. Performance on each instrument is reported for pupils in Dowa district (intervention) and Dedza district (comparison). Within each district/group, performance is reported by gender and OVC (Orphan and Vulnerable Children) status as well. For the standard 1 Chichewa literacy test, performance in each subtest is reported. Item level statistics for standard 6 assessments are presented in Appendix B.

For the standard 6 English and mathematics assessments, about two-thirds of the test items used in 2006 were replaced in the 2007 forms to ensure test security. In order to maintain the comparability of the tests comprised of different test items, test equating and scaling were conducted. Three types of achievement data are presented when reporting pupil performance: mean (average) raw scores, mean (average) scale scores, and the percentage of pupils reaching performance levels.

Raw Scores: Raw scores represent the number of score points earned; since each item is worth one point a raw score is the same as the number of items answered correctly. The mean raw scores presented in this chapter are the average raw scores across all learners overall or in a subgroup of the population. Because the 2007 test forms are not identical to the 2006 test forms (two-thirds of the items in 2007 are new), it is not meaningful to compare raw scores from 2006 and 2007.

Scale Scores: The 2006 and 2007 test forms were “equated” using item response theory (IRT) methodology and scores for 2006 and 2007 were put on the same scale ranging from 100 to 500. This makes it possible to compare performance in 2006 and 2007 based on scale scores. Appendix A contains a description of the equating and scaling procedures.

Performance Levels: Each scale was also divided into four levels of performance -- *minimal*, *need improvement*, *proficient*, and *advanced* -- based on raw score and scale score ranges. The percentages of pupils at each performance level for English and mathematics assessment are presented in this chapter.

For the standard 1 Chichewa literacy assessment, only raw scores and performance levels were reported to represent students’ performance because the same instrument was used in 2006 and 2007. The performance levels for this assessment are *minimal*, *passing*, and *advanced*.

As stated in the Introduction section, the pupil assessments were designed to provide a measure of project impact. In order to scientifically determine the intervention effect, a pre-post/intervention-comparison quasi-experimental design at school level was used. The analysis of covariance (ANCOVA) was employed to compare follow-up scale scores of the intervention and comparison groups at *school* level for statistical significance, using the baseline scale scores as a covariate to partial out the initial group difference. A Significance level of .05 was used. In addition to the overall group comparisons, a series of t-tests were also performed to examine the achievement gaps between genders and OVC statuses for 2006 and 2007, respectively.

This chapter is organized by the three assessments. Each assessment section contains the following results:

- Performance of pupils by group (intervention vs. comparison) – indication of program impact,
- Performance of pupils by gender within group,
- Performance of pupils by OVC status within group, and
- Performance levels, including
 - o Percent of pupils at each performance level by group
 - o Percent of pupils at each performance level by gender within group
 - o Percent of pupils at each performance level by OVC status within group

7.1. Standard 6 English assessment results

7.1.1 Performance of pupils by group

The standard 6 English assessment has a total of 40 possible score points. Table 7-1 presents results in raw scores (RS) for pupils in the standard 6 English assessment by group in 2006 and 2007. The sample size and standard error associated with each estimated mean is reported as well.

The scale scores were set to range from 100 to 500. Table 7-2 presents results in scale scores (SS) by group in 2006 and 2007. As addressed in section 4.1, to evaluate the intervention impact, the group difference at follow-up needs to be adjusted to take into consideration the baseline difference. Adjusted scale score means for 2007 and their standard errors are thus calculated and listed in Table 7.2. It appears that the pupils in both intervention and comparison groups improved their performance in English assessment; however, the intervention group seems to have more substantial improvement. The statistical analyses (i.e., ANCOVA) show that the intervention group performed significantly better than the comparison group in 2007.

Table 7-1 Mean Raw Scores for the Standard 6 English Assessment, Overall, in 2006 and 2007

| Group | 2006 Baseline | | | 2007 Follow-up | | |
|---------------------|---------------|---------|-------|----------------|---------|------|
| | n | Mean RS | S.E.* | n | Mean RS | S.E. |
| Intervention (Dowa) | 1372 | 11.93 | 0.13 | 1616 | 14.92 | 0.16 |
| Comparison (Dedza) | 1084 | 14.27 | 0.14 | 1082 | 14.48 | 0.17 |

*S.E. stands for standard error associated with the estimated mean.

Table 7-2 Mean Scale Scores and Estimated Marginal Mean Scores for the Standard 6 English Assessment, Overall, in 2006 and 2007

| | Scale Scores | | Adjusted Means for 2007 | Estimated Standard Error | Statistical Significance |
|---------------------|---------------|----------------|-------------------------|--------------------------|--------------------------|
| | 2006 Baseline | 2007 Follow-up | | | |
| Intervention (Dowa) | 228.21 | 275.57 | 290.54 | 6.5 | ▲ |
| Comparison (Dedza) | 267.27 | 271.86 | 249.77 | 8.1 | |

▲ Performance of the group is significantly higher than the other group in 2007, at .05 level, controlling for the mean difference in 2006.

7.1.2 Performance of pupils by gender within group

Tables 7-3 and 7-4 present results in raw scores and scale scores, respectively, for pupils in the standard 6 English assessment by gender within each group in 2006 and 2007. As shown in Table 7-4, it appears that both boys and girls in the intervention group performed better in 2007 than in 2006, while in the comparison group boys improved from 2006 to 2007 and girls regressed instead. Also, in terms of the achievement gap between genders, it seems that boys in both groups performed better than girls across two data collection phases. To examine whether the achievement gaps between genders are statistically significant, a series of t-tests were performed. The results show that in 2006 the gap within the intervention group is statistically significant, but not significant within the comparison group. The gap remains for the intervention group in 2007 and became significant for the comparison group in 2007.

Table 7-3 Mean Raw Scores for the Standard 6 English Assessment by Gender within Group, in 2006 and 2007

| Group | 2006 Baseline | | | 2007 Follow-up | | |
|---------------------|---------------|---------|-------|----------------|---------|------|
| | n | Mean RS | S.E.* | n | Mean RS | S.E. |
| Intervention (Dowa) | | | | | | |
| Boys | 667 | 12.20 | 0.18 | 836 | 15.36 | 0.23 |
| Girls | 705 | 11.67 | 0.18 | 780 | 14.45 | 0.22 |
| Comparison (Dedza) | | | | | | |
| Boys | 564 | 14.47 | 0.20 | 534 | 15.16 | 0.25 |
| Girls | 520 | 14.05 | 0.19 | 548 | 13.81 | 0.23 |

*S.E. stands for standard error associated with the estimated mean.

Table 7-4 Mean Scale Scores for the Standard 6 English Assessment by Gender within Group, in 2006 and 2007

| Group | 2006 Baseline | | | 2007 Follow-up | | |
|---------------------|---------------|----------|-------|----------------|----------|------|
| | n | Mean SS | S.E.* | n | Mean SS | S.E. |
| Intervention (Dowa) | | | | | | |
| Boys | 667 | 234.14 ▲ | 3.02 | 836 | 284.05 ▲ | 3.70 |
| Girls | 705 | 224.79 | 3.02 | 780 | 269.72 | 3.58 |
| Comparison (Dedza) | | | | | | |
| Boys | 564 | 272.12 | 3.21 | 534 | 281.13 ▲ | 3.94 |
| Girls | 520 | 266.02 | 3.04 | 548 | 260.14 | 3.76 |

*S.E. stands for standard error associated with the estimated mean.

▲ Performance of the group is significantly higher than the other gender group, at .05 level.

7.1.3 Performance of pupils by OVC status within group

Tables 7-5 and 7-6 present results in raw scores and scale scores, respectively, for pupils in the standard 6 English assessment by OVC within each group in 2006 and 2007. The OVC information was only collected for intervention group during 2006 test administration. Within each group, a t-test was performed to examine whether there exists an achievement gap between the OVC pupils and non OVC pupils in 2006 and 2007. The results show that the differences between OVC and non OVC pupils in neither groups are statistically significant.

Table 7-5 Mean Raw Scores for the Standard 6 English Assessment by OVC Status within Group, in 2007

| Group | 2006 Baseline | | | 2007 Follow-up | | |
|---------------------|---------------|---------|------|----------------|---------|-------|
| | n | Mean RS | S.E. | n | Mean RS | S.E.* |
| Intervention (Dowa) | | | | | | |
| OVC | 464 | 11.70 | .22 | 193 | 15.51 | 0.48 |
| Non-OVC | 908 | 12.05 | .16 | 1423 | 14.84 | 0.17 |
| Comparison (Dedza) | | | | | | |
| OVC | -- | -- | -- | 165 | 14.55 | 0.47 |
| Non-OVC | -- | -- | -- | 917 | 14.46 | 0.18 |

*S.E. stands for standard error associated with the estimated mean.

Table 7-6 Mean Scale Scores for the Standard 6 English Assessment by OVC status within Group, 2007

| Group | 2006 Baseline | | | 2007 Follow-up | | |
|---------------------|---------------|---------|-------|----------------|---------|------|
| | n | Mean SS | S.E.* | n | Mean SS | S.E. |
| Intervention (Dowa) | | | | | | |
| OVC | 464 | 225.05 | 3.77 | 193 | 287.12 | 7.62 |
| Non-OVC | 908 | 231.52 | 2.60 | 1423 | 275.78 | 2.75 |
| Comparison (Dedza) | | | | | | |
| OVC | -- | -- | -- | 165 | 270.43 | 7.42 |
| Non-OVC | -- | -- | -- | 917 | 270.51 | 2.95 |

*S.E. stands for standard error associated with the estimated mean.

7.1.4 Performance levels

For the standard 6 English assessment, four performance levels were established: *Minimal*, *Needs Improvement*, *Proficient*, and *Advanced*. The last two categories represent the passing levels where pupils demonstrate the satisfactory knowledge and skills required by the instrument. In this section, percentages of pupils at each performance level were presented. In the next section, 8.0 Implications, the percentages of pupils at passing and fail level are further summarized. Figure 7-1 shows the raw and scale score ranges corresponding to each level for the standard 6 English assessment in 2006 and 2007. Frequencies of raw scores and corresponding *thetas* and scale scores for the 2007 English assessment are included in Appendix C.

Figure 7-1 Raw Score and Scale Score Ranges for the Standard 6 English Performance Levels, 2007

| | 2006 Baseline | | 2007 Follow-up | |
|--------------------------|-----------------|-------------------|-----------------|-------------------|
| | Raw Score Range | Scale Score Range | Raw Score Range | Scale Score Range |
| Advanced | 24 – 40 | 419 - 500 | 24 – 40 | 420 - 500 |
| Proficient | 16 – 23 | 300 – 404 | 16 – 23 | 300 – 404 |
| Needs Improvement | 10 – 15 | 200 – 285 | 10 – 15 | 200 – 285 |
| Minimal | 0 – 9 | 100 – 180 | 0 – 9 | 100 – 181 |

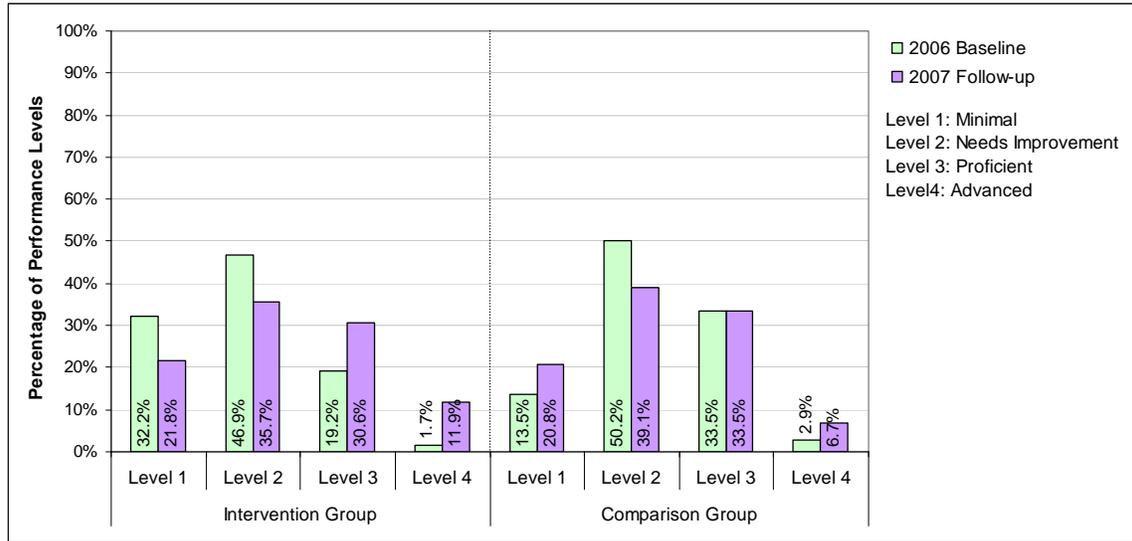
7.1.4.a Percent of pupils at each performance level by group

Table 7-7 presents the percentage of pupils at each level for each group in 2006 and 2007. Figure 7-2 shows the corresponding graph. In 2007, 42.5% of pupils in the intervention reached the proficient level or above, compared with 20.9% in 2006, representing a substantial improvement.

Table 7-7 Percentage of Standard 6 Pupils at English Performance Levels by Group in 2006 and 2007

| | Minimal | Needs Improvement | Proficient | Advanced |
|----------------------------|---------|-------------------|------------|----------|
| Intervention (Dowa) | | | | |
| 2006 Baseline | 32.2 | 46.9 | 19.2 | 1.7 |
| 2007 Follow-up | 21.8 | 35.7 | 30.6 | 11.9 |
| Comparison (Dedza) | | | | |
| 2006 Baseline | 13.5 | 50.2 | 33.5 | 2.9 |
| 2007 Follow-up | 20.8 | 39.1 | 33.5 | 6.7 |

Figure 7-2 Percentage of Standard 6 Pupils at English Performance Levels by Group in 2006 and 2007



7.1.4.b Percent of pupils at each performance level by gender within group

Table 7-6 presents the percentage of pupils at each level for each gender within each group in 2006 and 2007

Table 7-6 Percentage of Standard 6 Pupils at English Performance Levels by Gender within Group: 2006 and 2007

| | Minimal | Needs Improvement | Proficient | Advanced |
|----------------------------|---------|-------------------|------------|----------|
| 2006 Baseline | | | | |
| Intervention (Dowa) | | | | |
| Boys | 28.6 | 49.5 | 20.4 | 1.5 |
| Girls | 35.6 | 44.5 | 18.0 | 1.8 |
| Comparison (Dedza) | | | | |
| Boys | 14.5 | 47.5 | 33.7 | 4.3 |
| Girls | 12.3 | 53.1 | 33.3 | 1.3 |
| 2007 Follow-up | | | | |
| Intervention (Dowa) | | | | |
| Boys | 20.3 | 32.7 | 33.0 | 14.0 |
| Girls | 23.3 | 39.0 | 27.9 | 9.7 |
| Comparison (Dedza) | | | | |
| Boys | 16.9 | 39.1 | 35.8 | 8.2 |
| Girls | 24.6 | 39.1 | 31.2 | 5.1 |



7.1.4.c Percent of pupils at each performance level by OVC status within group

Table 7-9 presents the percentage of pupils at each level by OVC status in 2007.

Table 7-9 Percentage of Standard 6 Pupils at English Performance Levels by OVC Status within Group: 2007

| | Minimal | Needs Improvement | Proficient | Advanced |
|----------------------------|---------|-------------------|------------|----------|
| 2007 Follow-up | | | | |
| Intervention (Dowa) | | | | |
| OVC | 20.7 | 30.6 | 34.7 | 14.0 |
| Non-OVC | 21.9 | 36.4 | 30.0 | 11.7 |
| Comparison (Dedza) | | | | |
| OVC | 24.8 | 32.7 | 36.4 | 6.1 |
| Non-OVC | 20.1 | 40.2 | 32.9 | 6.8 |

7.2. Standard 6 mathematics assessment results

7.2.1 Performance of pupils by group

The standard 6 math assessment has a total of 40 possible score points. Table 7-10 presents results in raw scores for pupils in the standard 6 math assessment by group in 2006 and 2007. The sample size and standard error associated with each estimated mean are reported as well.

The scale scores were set to range from 100 to 500. Table 7-11 presents results in scale scores by group in 2006 and 2007. Adjusted means for 2007 and their standard errors are thus calculated and listed in Table 7-11. The statistical analyses show that the intervention group performed significantly better than the comparison group.

Table 7-10 Mean Raw Scores for the Standard 6 Math Assessment, Overall, in 2006 and 2007

| Group | 2006 Baseline | | | 2007 Follow-up | | |
|---------------------|---------------|---------|-------|----------------|---------|------|
| | n | Mean RS | S.E.* | n | Mean RS | S.E. |
| Intervention (Dowa) | 1372 | 12.93 | 0.11 | 1616 | 17.73 | 0.15 |
| Comparison (Dedza) | 1084 | 14.54 | 0.13 | 1082 | 17.22 | 0.17 |

*S.E. stands for standard error associated with the estimated mean.

Table 7-11 Mean Scale Scores and Estimated Marginal Mean Scores for the Standard 6 Math Assessment, Overall, in 2006 and 2007

| | Scale Scores | | Adjusted Means for 2007 | Estimated Standard Error | Statistical Significance |
|---------------------|---------------|----------------|-------------------------|--------------------------|--------------------------|
| | 2006 Baseline | 2007 Follow-up | | | |
| Intervention (Dowa) | 246.73 | 302.97 | 309.16 | 5.46 | ▲ |
| Comparison (Dedza) | 273.68 | 297.73 | 288.61 | 6.75 | |

▲ Performance of the group is significantly higher than the other group in 2007, at .05 level, controlling the mean difference in 2006.

7.2.2 Performance of pupils by gender within group

Tables 7-12 and 7-13 present results in raw scores and scale scores, respectively, for pupils in the standard 6 Math assessment by gender within each group in 2006 and 2007. As shown in Table 7-12, it appears that both boys and girls in both groups performed better in 2007 than in 2006. In terms of the achievement gap between genders, it seems that boys in both groups performed better than girls across two data collection phases. To examine whether the achievement gaps between genders are statistically significant, a series of t-tests were performed. The results show that in 2006 the gaps in both groups are statistically significant; the gaps remain for both groups in 2007.

Table 7-12 Mean Raw Scores for the Standard 6 Math Assessment by Gender within Group, in 2006 and 2007

| Group | 2006 Baseline | | | 2007 Follow-up | | |
|---------------------|---------------|---------|-------|----------------|---------|------|
| | n | Mean RS | S.E.* | n | Mean RS | S.E. |
| Intervention (Dowa) | | | | | | |
| Boys | 667 | 13.48 | 0.16 | 836 | 18.97 | 0.21 |
| Girls | 705 | 12.41 | 0.15 | 780 | 16.40 | 0.19 |
| Comparison (Dedza) | | | | | | |
| Boys | 564 | 15.07 | 0.19 | 534 | 18.54 | 0.24 |
| Girls | 520 | 13.96 | 0.16 | 548 | 15.94 | 0.21 |

*S.E. stands for standard error associated with the estimated mean.

Table 7-13 Mean Scale Scores for the Standard 6 Math Assessment by Gender within Group, in 2006 and 2007

| Group | 2006 Baseline | | | 2007 Follow-up | | |
|---------------------|---------------|----------|-------|----------------|----------|------|
| | n | Mean SS | S.E.* | n | Mean SS | S.E. |
| Intervention (Dowa) | | | | | | |
| Boys | 667 | 256.93 ▲ | 2.62 | 836 | 322.65 ▲ | 3.16 |
| Girls | 705 | 239.10 | 2.53 | 780 | 283.78 | 3.01 |
| Comparison (Dedza) | | | | | | |
| Boys | 564 | 282.15 ▲ | 2.96 | 534 | 316.39 ▲ | 3.66 |
| Girls | 520 | 265.25 | 2.67 | 548 | 276.84 | 3.34 |

*S.E. stands for standard error associated with the estimated mean.

▲ Performance of the group is significantly higher than the other gender group, at .05 level.

7.2.3 Performance of pupils by OVC status within group

Tables 7-14 and 7-15 present results in raw scores and scale scores, respectively, for pupils in the standard 6 math assessment by OVC within each group in 2006 and 2007. Within each group, a t-test was performed to examine whether there exists an achievement gap between the OVC pupils and non OVC pupils in 2006 and 2007. The results show that the differences between OVC and non OVC pupils in neither group are not statistically significant in 2006 and 2007.

Table 7-14 Mean Raw Scores for the Standard 6 Math Assessment by OVC Status within Group, in 2006 and 2007

| Group | 2006 Baseline | | | 2007 Follow-up | | |
|---------------------|---------------|---------|-------|----------------|---------|------|
| | n | Mean RS | S.E.* | n | Mean RS | S.E. |
| Intervention (Dowa) | | | | | | |
| OVC | 464 | 13.06 | .20 | 193 | 17.46 | 0.39 |
| Non-OVC | 908 | 12.87 | .13 | 1423 | 17.76 | 0.16 |
| Comparison (Dedza) | | | | | | |
| OVC | -- | -- | -- | 165 | 17.30 | 0.43 |
| Non-OVC | -- | -- | -- | 917 | 17.21 | 0.18 |

*S.E. stands for standard error associated with the estimated mean.

Table 7-15 Mean Scale Scores for the Standard 6 Math Assessment by OVC status within Group, in 2006 and 2007

| Group | 2006 Baseline | | | 2007 Follow-up | | |
|---------------------|---------------|---------|-------|----------------|---------|------|
| | n | Mean SS | S.E.* | n | Mean SS | S.E. |
| Intervention (Dowa) | | | | | | |
| OVC | 464 | 249.56 | 3.31 | 193 | 299.78 | 6.03 |
| Non-OVC | 908 | 246.85 | 2.20 | 1423 | 304.45 | 2.41 |
| Comparison (Dedza) | | | | | | |
| OVC | -- | -- | -- | 165 | 296.94 | 6.43 |
| Non-OVC | -- | -- | -- | 917 | 296.26 | 2.77 |

*S.E. stands for standard error associated with the estimated mean.

7.2.4 Performance levels

For the standard 6 math assessment, four performance levels were established: *Minimal*, *Needs Improvement*, *Proficient*, and *Advanced*. The last two categories represent the passing levels where pupils demonstrate the satisfactory knowledge and skills required by the instrument. Figure 7-3 shows the raw and scale score ranges corresponding to each level for the standard 6 math assessment in 2007. Frequencies of raw scores and corresponding *betas* and scale scores for the 2007 math assessment are included in Appendix C.

Figure 7-3 Raw Score and Scale Score Ranges for the Standard 6 English Performance Levels, 2007

| | 2006 Baseline | | 2007 Follow-up | |
|--------------------------|-----------------|-------------------|-----------------|-------------------|
| | Raw Score Range | Scale Score Range | Raw Score Range | Scale Score Range |
| Advanced | 24 – 40 | 418 - 500 | 25 – 40 | 414 - 500 |
| Proficient | 16 – 23 | 300 – 403 | 17 – 24 | 296 – 399 |
| Needs Improvement | 10 – 15 | 200 – 285 | 11 – 16 | 200 – 281 |
| Minimal | 0 – 9 | 100 – 180 | 0 – 10 | 100 – 181 |

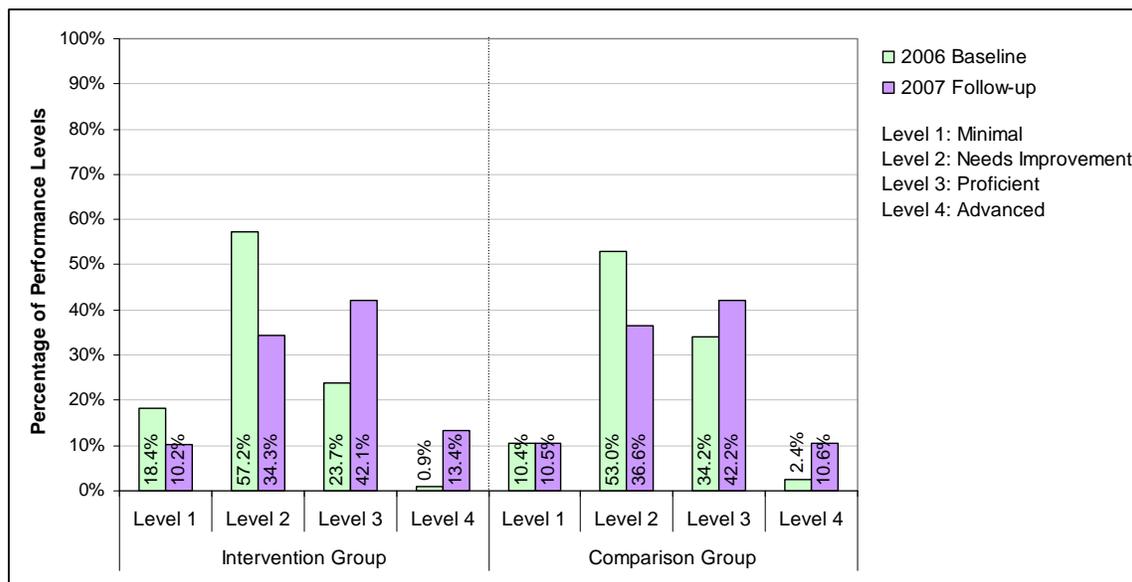
7.2.4.a Percent of pupils at each performance level by group

Table 7-16 presents the percentage of pupils at each level for each group in 2006 and 2007. Figure 7-4 shows the corresponding graph. In 2007, approximately half of pupils (55.5%) in the intervention reached the proficient level or above, compared with 24.6% in 2006, representing a substantial improvement.

Table 7-16 Percentage of Standard 6 Pupils at Math Performance Levels by Group in 2006 and 2007

| | Minimal | Needs Improvement | Proficient | Advanced |
|----------------------------|---------|-------------------|------------|----------|
| Intervention (Dowa) | | | | |
| 2006 Baseline | 18.4 | 57.1 | 23.7 | 0.9 |
| 2007 Follow-up | 10.2 | 34.3 | 42.1 | 13.4 |
| Comparison (Dedza) | | | | |
| 2006 Baseline | 10.4 | 53.0 | 34.2 | 2.4 |
| 2007 Follow-up | 10.5 | 36.6 | 42.2 | 10.6 |

Figure 7-4 Percentage of Standard 6 Pupils at Math Performance Levels by Group in 2006 and 2007



7.2.4.b Percent of pupils at each performance level by gender within group

Table 7-17 presents the percentage of pupils at each level for each gender within each group in 2006 and 2007.

Table 7-17 Percentage of Standard 6 Pupils at Math Performance Levels by Gender within Group: 2006 and 2007

| | Minimal | Needs Improvement | Proficient | Advanced |
|----------------------------|---------|-------------------|------------|----------|
| 2006 Baseline | | | | |
| Intervention (Dowa) | | | | |
| Boys | 14.5 | 57.4 | 27.0 | 1.0 |
| Girls | 22.0 | 56.7 | 20.6 | 0.7 |
| Comparison (Dedza) | | | | |
| Boys | 10.5 | 47.2 | 38.7 | 3.7 |
| Girls | 10.4 | 59.2 | 29.4 | 1.0 |
| 2007 Follow-up | | | | |
| Intervention (Dowa) | | | | |
| Boys | 7.7 | 29.2 | 44.5 | 18.7 |
| Girls | 12.9 | 39.7 | 39.6 | 7.7 |
| Comparison (Dedza) | | | | |
| Boys | 7.1 | 29.2 | 48.5 | 15.2 |
| Girls | 13.9 | 43.8 | 36.1 | 6.2 |



7.2.4.c Percent of pupils at each performance level by OVC status within group

Table 7-18 presents the percentage of pupils at each level by OVC status in 2007.

Table 7-18 Percentage of Standard 6 Pupils at Math Performance Levels by OVC Status within Group: 2007

| | Minimal | Needs Improvement | Proficient | Advanced |
|----------------------------|---------|-------------------|------------|----------|
| 2007 Follow-up | | | | |
| Intervention (Dowa) | | | | |
| OVC | 10.9 | 34.7 | 45.1 | 9.3 |
| Non-OVC | 10.1 | 34.2 | 41.7 | 13.9 |
| Comparison (Dedza) | | | | |
| OVC | 10.3 | 39.4 | 39.4 | 10.9 |
| Non-OVC | 10.6 | 36.1 | 42.7 | 10.6 |

7.3. Standard 1 Chichewa literacy assessment results

7.3.1 Performance of pupils by group

The standard 1 Chichewa literacy assessment consists of four task domains and has a total of 31 possible score points. Because the same instrument was used in 2006 and 2007, scaling and test equating were not conducted for this particular instrument. Table 7-19 presents results in raw scores for pupils in the standard 1 Chichewa literacy assessment by group in 2006 and 2007. Adjusted means for 2007, after taking into consideration the baseline difference, and their standard errors are calculated and listed in Table 7-19 as well. The statistical analyses show that the intervention group performed significantly better than the comparison group in 2007.

Table 7-20 presents results in raw scores in 2006 and 2007 and adjusted means for 2007 in each task domain of the standard 1 Chichewa literacy assessment, by group. The statistical analyses show that the intervention group performed significantly better than the comparison group in all the tasks.

Table 7-19 Mean Raw Scores and Estimated Marginal Mean Scores for the Standard 1 Literacy Assessment, Overall, in 2006 and 2007

| | Raw Scores | | Adjusted Means for 2007 | Estimated Standard Error | Statistical Significance |
|---------------------|---------------|----------------|-------------------------|--------------------------|--------------------------|
| | 2006 Baseline | 2007 Follow-up | | | |
| Intervention (Dowa) | 9.31 | 11.09 | 11.08 | 0.33 | ▲ |
| Comparison (Dedza) | 9.29 | 7.50 | 7.51 | 0.40 | |

▲ Performance of the group is significantly higher than the other group in 2007, at .05 level, controlling the mean difference in 2006.

Table 7-20 Mean Raw Scores and Estimated Marginal Mean Scores for Each Task Domain of the Standard 1 Literacy Assessment, in 2006 and 2007

| | # of items | Raw Scores | | Adjusted Means for 2007 | Estimated Standard Error | Statistical Significance |
|----------------------------|------------|---------------|----------------|-------------------------|--------------------------|--------------------------|
| | | 2006 Baseline | 2007 Follow-up | | | |
| Intervention (Dowa) | | | | | | |
| Phonemic Awareness | 8 | 4.81 | 5.66 | 5.64 | 0.14 | ▲ |
| Word Naming | 3 | 1.31 | 1.66 | 1.64 | 0.08 | ▲ |
| Letter Sounds | 10 | 2.56 | 3.03 | 3.03 | 0.13 | ▲ |
| Word Recognition | 10 | 0.64 | 0.75 | 0.76 | 0.10 | ▲ |
| Comparison (Dedza) | | | | | | |
| Phonemic Awareness | 8 | 4.70 | 4.38 | 4.40 | 0.17 | |
| Word Naming | 3 | 1.21 | 1.05 | 1.08 | 0.10 | |
| Letter Sounds | 10 | 2.63 | 1.86 | 1.85 | 0.16 | |
| Word Recognition | 10 | 0.76 | 0.21 | 0.19 | 0.13 | |

▲ Performance of the group is significantly higher than the other group in 2007, at .05 level, controlling the mean difference in 2006.

7.3.2 Performance of pupils by gender within group

Table 7-21 present results in raw scores for pupils in the standard 1 Chichewa literacy assessment by gender within each group in 2006 and 2007. As shown in Table 7-21, it appears that both boys and girls in the intervention group performed better in Chichewa in 2007 than in 2006, while both genders in the comparison group performed worse in 2007 than in 2006. To examine whether the achievement gaps between genders exist, a series of t-tests were performed. The results show that there is no difference in Chichewa between genders in either group in 2006 and 2007.

Table 7-21 Mean Raw Scores for the Standard 1 Chichewa Literacy Assessment by Gender within Group, in 2006 and 2007

| Group | 2006 Baseline | | | 2007 Follow-up | | |
|----------------------------|---------------|---------|-------|----------------|---------|------|
| | n | Mean RS | S.E.* | n | Mean RS | S.E. |
| Intervention (Dowa) | | | | | | |
| Boys | 168 | 9.20 | 0.43 | 176 | 11.14 | 0.35 |
| Girls | 186 | 9.42 | 0.35 | 178 | 11.04 | 0.33 |
| Comparison (Dedza) | | | | | | |
| Boys | 124 | 9.10 | 0.55 | 122 | 7.74 | 0.32 |
| Girls | 116 | 9.49 | 0.50 | 118 | 7.25 | 0.31 |

*S.E. stands for standard error associated with the estimated mean.

7.3.3 Performance of pupils by OVC status within group

Table 7-22 present raw score results for the standard 1 Chichewa literacy assessment by OVC status, within each group, in 2006 and 2007. Within each group, a t-test was performed to examine whether there exists an achievement gap between the OVC pupils and non OVC pupils in 2007. The results show that the differences between OVC and non OVC pupils in neither group are not statistically significant.

Table 7-22 Mean Raw Scores for the Standard 1 Chichewa Literacy Assessment by OVC Status within Group: 2007

| Group | 2006 Baseline | | | 2007 Follow-up | | |
|---------------------|---------------|---------|------|----------------|---------|-------|
| | n | Mean RS | S.E. | n | Mean RS | S.E.* |
| Intervention (Dowa) | | | | | | |
| OVC | 126 | 9.84 | .39 | 57 | 11.58 | 0.57 |
| Non-OVC | 228 | 9.02 | .37 | 297 | 11.00 | 0.26 |
| Comparison (Dedza) | | | | | | |
| OVC | -- | -- | -- | 43 | 7.51 | 0.52 |
| Non-OVC | -- | -- | -- | 197 | 7.49 | 0.25 |

*S.E. stands for standard error associated with the estimated mean.

7.3.4 Performance levels

For the standard 1 Chichewa literacy assessment, three performance levels were established: *Minimal*, *Passing*, and *Advanced*. The last two categories represent the passing levels where pupils demonstrate the satisfactory knowledge and skills required by the instrument. Figure 7-5 shows the raw score ranges corresponding to each level for the standard 1 Chichewa assessment in both 2006 and 2007. Frequencies of raw scores for the 2007 Chichewa assessment are included in Appendix C.

Figure 7-5 Raw Score Ranges for the Standard 1 Chichewa Literacy Performance Levels, 2007

| | Raw Score Range |
|-----------------|-----------------|
| Advanced | 18-31 |
| Passing | 12-17 |
| Minimal | 0-11 |

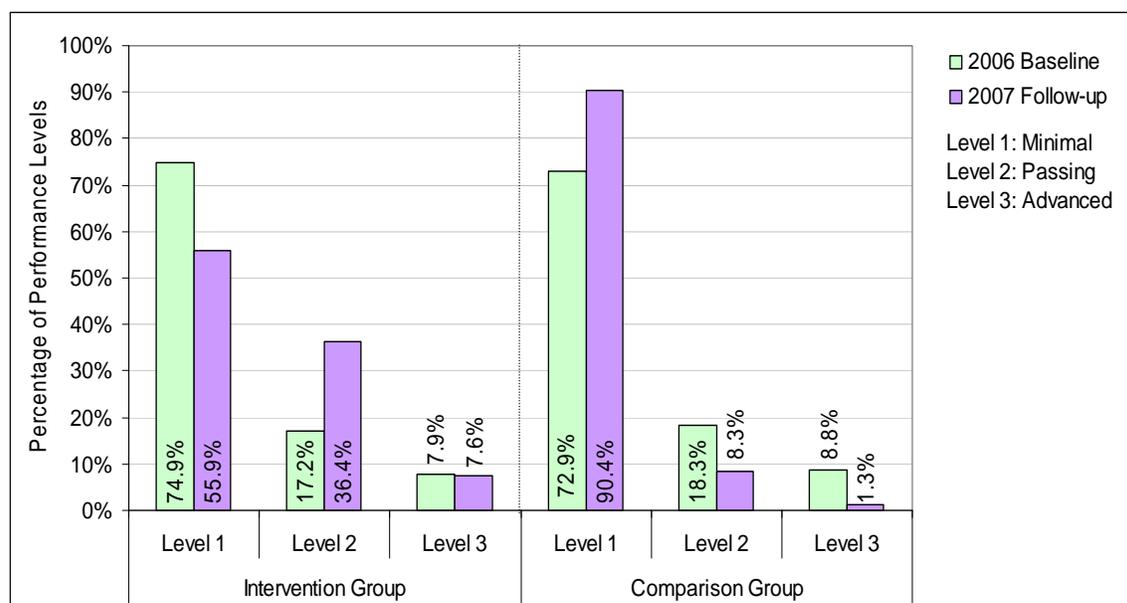
7.3.4.a Percent of pupils at each performance level by group

Table 7-23 presents the percentage of pupils at each level for each group in 2006 and 2007. Figure 7-6 shows the corresponding graph. Based on the equivalent percentages between the two groups across the three levels at 2006 baseline, it appeared that there is no difference in Chichewa between the two groups at baseline. However, after one year of program implementation, the intervention group improved substantially compared to the comparison group. In the intervention group, the percentage of pupils categorized at *minimal* level decreased by 19%, while in the comparison group approximately the same percentage of pupils increased at the *minimal* level.

Table 7-23 Percentage of Standard 1 Pupils at Chichewa Literacy Performance Levels by Group in 2006 and 2007

| | Minimal | Passing | Advanced |
|----------------------------|---------|---------|----------|
| Intervention (Dowa) | | | |
| 2006 Baseline | 74.9 | 17.2 | 7.9 |
| 2007 Follow-up | 55.9 | 36.4 | 7.6 |
| Comparison (Dedza) | | | |
| 2006 Baseline | 72.9 | 18.3 | 8.8 |
| 2007 Follow-up | 90.4 | 8.3 | 1.3 |

Figure 7-6 Percentage of Standard 1 Pupils at Chichewa Literacy Performance Levels by Group in 2006 and 2007



7.3.4.b Percent of pupils at each performance level by gender within group

Table 7-24 presents the percentage of pupils at each level for each gender within each group in 2006 and 2007. At 2006 baseline, girls in both groups seemed to perform slightly better than boys; while in the 2007 follow up, girls in the intervention steadily performed better, but the girls in the comparison group regressed.

Table 7-24 Percentage of Standard 1 Pupils at Chichewa Literacy Performance Levels by Gender within Group: 2006 and 2007

| | Minimal | Passing | Advanced |
|------------------------------|---------|---------|----------|
| <u>2006 Baseline</u> | | | |
| Intervention (Dowa) | | | |
| Boys | 75.0 | 16.1 | 8.9 |
| Girls | 74.7 | 18.3 | 7.0 |
| Comparison (Dedza) | | | |
| Boys | 75.0 | 16.1 | 8.9 |
| Girls | 70.7 | 20.7 | 8.6 |
| <u>2007 Follow-up</u> | | | |
| Intervention (Dowa) | | | |
| Boys | 59.1 | 33.0 | 8.0 |
| Girls | 52.8 | 39.9 | 7.3 |
| Comparison (Dedza) | | | |
| Boys | 88.5 | 9.8 | 1.6 |
| Girls | 92.4 | 6.8 | 0.8 |

7.3.4.c Percent of pupils at each performance level by OVC status within group

Table 7-25 presents the percentage of pupils at each level by OVC status in 2007.

Table 7-25 Percentage of Standard 1 Pupils at Chichewa Literacy Performance Levels by OVC Status within Group: 2007

| | Minimal | Passing | Advanced |
|------------------------------|---------|---------|----------|
| <u>2007 Follow-up</u> | | | |
| Intervention (Dowa) | | | |
| OVC | 49.1 | 45.6 | 5.3 |
| Non-OVC | 57.2 | 34.7 | 8.1 |
| Comparison (Dedza) | | | |
| OVC | 88.4 | 11.6 | 0.0 |
| Non-OVC | 90.9 | 7.6 | 1.5 |

7.4 Item Statistics

Item statistics, including item difficulty, point biserial corrections (discrimination index), and the percentage selecting response options, are included in Appendix B. Also included are the topic and cognitive classifications for each item.

7.5 Test Reliabilities

Table 7-26 presents the reliability coefficients for the three instruments in 2006 and 2007. Reliability is the extent to which a test yields consistent scores. One type of commonly used measure of reliability is of internal consistency, which is measured as Cronbach's Alphas (based on inter-item correlations) and ranges from 0 (low) to 1 (high). Generally, a Cronbach's Alpha of .80 or higher is desirable. Table 7-26 shows that the test reliabilities for the standard 6 instruments increased substantially from the 2006 to 2007 test administration. The increase is likely due to the better performance of standard 6 pupils in 2007, especially from the intervention group. Low reliability is often caused by measurement error due to pupil guessing. Because the students in 2007 were able to better demonstrate their tested knowledge and skills (which reduced the amount of guessing) the instruments were more reliable.

Table 7-26 Reliability Coefficients for Standard 6 English and Mathematics Instruments and Standard 1 Chichewa Literacy Instrument

| | 2006 Coefficient (Alpha) | 2007 Coefficient (Alpha) |
|------------------------------|--------------------------|--------------------------|
| Standard 6 English | .66 | .80 |
| Standard 6 Mathematics | .57 | .75 |
| Standard 1 Chichewa literacy | .88 | .83 |

8.0 IMPLICATIONS

As demonstrated, the performance of the pupils in the intervention district improved significantly. Standard 1 pupils showed a 19% improvement in passing Chichewa with girls out-performing boys (see Tables 8-1 to 8-3). The extent of the improvement becomes more remarkable when compared with the 17.5% drop of the comparison district of Dedza. Over the year 2006, a new curriculum, the Primary Curriculum Assessment Reform (PCAR), was rolled out nationwide. All standard 1 teachers were oriented to its implementation methodologies. But like most curriculum reform interventions, it will be some time before teachers master it nationwide.

In the impact district, however, teachers received further in-depth training from the project and the ongoing literacy campaign helped maintain the focus on literacy in standard 1. Additional resources such as notebooks and pens which the pupils could not afford before were provided and teachers used TALULAR more. Thus the pupils' learning opportunities were increased resulting in their improved learning gains including those for girls and OVC.

Table 8-1 Standard 1 Chichewa - Percentage of pupils passing the test

| | Intervention | Comparison |
|-------------------------------|--------------|------------|
| 2006 | | |
| Fail (Minimal) | 74.9% | 72.9% |
| Pass (Passing + Advanced) | 25.1% | 27.1% |
| 2007 | | |
| Fail (Minimal) | 55.9% | 90.4% |
| Pass (Passing + Advanced) | 44.1% | 9.6% |
| 2006 - 2007 Comparison | | |
| Pass (Passing + Advanced) | ↑ 19.0% | ↓ 17.5% |

Table 8-2 Standard 1 Chichewa - Percentage of pupils passing the test by gender

| | Intervention | | Comparison | |
|-----------------------------|--------------|---------|------------|---------|
| | Boy | Girl | Boy | Girl |
| 2006 | | | | |
| Fail (Minimal) | 75.0% | 74.7% | 75.0% | 70.7% |
| Pass (Passing + Advanced) | 25.0% | 25.3% | 25.0% | 29.3% |
| 2007 | | | | |
| Fail (Minimal) | 59.1% | 52.8% | 88.5% | 92.4% |
| Pass (Passing + Advanced) | 40.9% | 47.2% | 11.4% | 7.6% |
| 2006-2007 Comparison | | | | |
| Pass (Passing + Advanced) | ↑ 15.9% | ↑ 21.9% | ↓ 13.5% | ↓ 21.7% |

Table 8-3 Standard 1 Chichewa - Percentage of pupils passing the test by OVC status

| | Intervention | | Comparison | |
|---------------------------|--------------|---------|------------|---------|
| | OVC | Non-OVC | OVC | Non-OVC |
| 2007 | | | | |
| Fail (Minimal) | 49.1% | 57.2% | 88.4% | 90.9% |
| Pass (Passing + Advanced) | 50.9% | 42.8% | 11.6% | 9.1% |

For standard 6, pupils also improved in Dowa and significantly more than the comparison district. In English there was a 21.6% increase and in mathematics, there was a 31% increase, with boys surpassing girls in both cases (see Tables 8-4 to 8-9). PSSP:SFP is working to improve the entire education system. Mobilization Corps of Malawi members (MCMs) have supported upper classes significantly through academic clubs, particularly in reading and mathematics. PSSP:SFP has provided donated books to school libraries and Teacher Development Centers (TDCs), increasing the resources available to children. Community mobilization campaigns are fostering a sense of importance for education, which is improving attendance, enrollment, time for learning and helping parents support their children in school. Teachers have been trained in various concepts in English and mathematics that have strengthened their own content knowledge and subsequent delivery of their lessons.

Table 8-4 Standard 6 - Percentage of pupils by proficiency level on English test

| | Intervention | Comparison |
|------------------------------------|--------------|------------|
| 2006 | | |
| Fail (Minimal + Needs Improvement) | 79.1% | 63.7% |
| Pass (Proficient + Advanced) | 20.8% | 36.3% |
| 2007 | | |
| Fail (Minimal + Needs Improvement) | 57.5% | 59.9% |
| Pass (Proficient + Advanced) | 42.5% | 40.1% |
| 2006-2007 Comparison | | |
| Pass (Proficient + Advanced) | ↑ 21.6% | ↑ 3.8% |

Table 8-5 Standard 6 - Percentage of pupils by proficiency level on English test by gender

| | Intervention | | Comparison | |
|------------------------------------|--------------|---------|------------|--------|
| | Boy | Girl | Boy | Girl |
| 2006 | | | | |
| Fail (Minimal + Needs Improvement) | 78.1% | 80.1% | 62.0% | 65.4% |
| Pass (Proficient + Advanced) | 21.9% | 19.9% | 38.0% | 34.6% |
| 2007 | | | | |
| Fail (Minimal + Needs Improvement) | 53.0% | 62.3% | 56.0% | 63.7% |
| Pass (Proficient + Advanced) | 47.0% | 37.7% | 44.0% | 36.3% |
| 2006-2007 Comparison | | | | |
| Pass (Proficient + Advanced) | ↑ 25.1% | ↑ 17.8% | ↑ 6.0% | ↑ 1.7% |

Table 8-6 Standard 6 - Percentage of pupils by proficiency level on English test by OVC status

| | Intervention | | Comparison | |
|------------------------------------|--------------|---------|------------|---------|
| | OVC | Non-OVC | OVC | Non-OVC |
| 2007 | | | | |
| Fail (Minimal + Needs Improvement) | 51.3% | 58.3% | 57.5% | 60.3% |
| Pass (Proficient + Advanced) | 48.7% | 41.7% | 42.5% | 39.7% |

Table 8-7 Standard 6 - Percentage of pupils by proficiency level on Mathematics test

| | Intervention | | Comparison | |
|-------------------------------------|----------------|--|----------------|--|
| 2006 | | | | |
| Fail (Minimal + Needs Improvement) | 75.5% | | 63.4% | |
| Pass (Proficient + Advanced) | 24.6% | | 36.6% | |
| 2007 | | | | |
| Fail (Minimal + Needs Improvement) | 44.5% | | 47.1% | |
| Pass (Proficient + Advanced) | 55.5% | | 52.9% | |
| 2006-2007 Comparison | | | | |
| Pass (Proficient + Advanced) | ↑ 31.0% | | ↑ 16.3% | |

Table 8-8 Standard 6 - Percentage of pupils by proficiency level on Mathematics test by sex

| | Intervention | | Comparison | |
|-------------------------------------|----------------|----------------|----------------|----------------|
| | Boy | Girl | Boy | Girl |
| 2006 | | | | |
| Fail (Minimal + Needs Improvement) | 71.9% | 78.7% | 57.7% | 69.6% |
| Pass (Proficient + Advanced) | 28.0% | 21.3% | 42.4% | 30.4% |
| 2007 | | | | |
| Fail (Minimal + Needs Improvement) | 36.9% | 52.6% | 36.3% | 57.7% |
| Pass (Proficient + Advanced) | 63.1% | 47.4% | 63.7% | 42.3% |
| 2006-2007 Comparison | | | | |
| Pass (Proficient + Advanced) | ↑ 35.0% | ↑ 26.1% | ↑ 21.4% | ↑ 11.9% |

Table 8-9 Standard 6 - Percentage of pupils by proficiency level on Mathematics test by OVC status

| | Intervention | | Comparison | |
|------------------------------------|--------------|---------|------------|---------|
| | OVC | Non-OVC | OVC | Non-OVC |
| 2007 | | | | |
| Fail (Minimal + Needs Improvement) | 45.6% | 44.3% | 49.7% | 46.7% |
| Pass (Proficient + Advanced) | 54.4% | 55.7% | 50.3% | 53.3% |

Appendix A: Scaling and Equating Methodology, Item Parameters, and Raw Score-Scale Score Conversion Tables

Item Response Theory (IRT) was used to calibrate and scale the standard 6 English and mathematics instruments. More specifically, the one-parameter Rasch model was employed. Winsteps statistical software package was used (Linacre, 2005). The steps taken to scale the data for each subject were as follows:

Step 1: Created a calibration data file transformed from SPSS format.

Step 2: Calibrated all the items with the Winstep program (version 3.57). The item difficulty (b) and ability parameter (θ) estimates were obtained.

Step 3: Compared the b -parameters for the linking items for 2006 and 2007, and computed the average difference between the b -parameters. This is the “equating constant”.

Step 4: The scaled item parameters were used to establish the raw score to ability estimate (θ) conversion for each raw score, through an iterative process. The equating constant was applied to the ability estimate to obtain adjusted ability estimates that are on the 2006 scale.

Step 5: The adjusted ability scores were transformed to scale scores ranging from 100 (lowest) to 500 (highest) by

$$\text{Scale Score} = \alpha + \gamma \cdot \text{Theta} \quad (\text{Equation 1})$$

where α is the y -intercept and γ is the slope.

The slopes and y -intercept for each of the instruments are listed in Table A.1. Values of less than 100 or greater than 500 are truncated to those minimum and maximum scores.

Table A.1. Slopes and y -Intercepts

| Subject | Slope | y -Intercept |
|-------------|--------|----------------|
| English | 129.75 | 361.89 |
| Mathematics | 125.63 | 358.39 |

The 2007 b -parameter estimates are shown in Table A.2 and the equating constants are shown in Table A.3.

Table A.2. IRT Parameter Estimates (*b* parameters): 2007 PSSP Standard 6 Assessments

| Item Sequence | English | | | Mathematics | | |
|---------------|--------------|-------------------------|-------------------------|--------------|-------------------------|-------------------------|
| | Linking Item | 2006 <i>b</i> parameter | 2007 <i>b</i> parameter | Linking Item | 2006 <i>b</i> parameter | 2007 <i>b</i> parameter |
| 1 | Y | -1.4119 | -1.3993 | Y | -0.8410 | -.5736 |
| 2 | | | -.0038 | Y | -.5886 | -.2178 |
| 3 | | | .4645 | | | .1365 |
| 4 | | | -1.4792 | | | -.4804 |
| 5 | Y | -1.0419 | -1.0971 | Y | -1.0570 | -.9418 |
| 6 | Y | -0.1394 | -.2548 | Y | -0.5324 | -.1996 |
| 7 | | | -.2548 | Y | -0.7990 | -.6442 |
| 8 | | | .8950 | Y | -2.0787 | -2.2094 |
| 9 | | | 2.4091 | Y | 0.1590 | .5233 |
| 10 | | | 1.9593 | Y | -0.7183 | -.6375 |
| 11 | | | 1.4946 | | | -1.8921 |
| 12 | | | 1.9856 | Y | -1.5000 | -1.1698 |
| 13 | | | -1.3280 | Y | -0.8223 | -.8622 |
| 14 | | | -.4389 | | | -.5502 |
| 15 | Y | -0.4895 | -.3008 | | | .1759 |
| 16 | Y | -0.5761 | -.5802 | | | .6682 |
| 17 | | | -.0410 | | | .8793 |
| 18 | | | -1.3371 | Y | -0.4190 | -.0821 |
| 19 | | | -.3272 | | | .6996 |
| 20 | | | -.2530 | | | -.0137 |
| 21 | Y | -0.8722 | -.8828 | | | .8878 |
| 22 | Y | -0.4537 | -.4198 | Y | -0.2469 | .2138 |
| 23 | Y | 0.4327 | .4343 | | | .6333 |
| 24 | Y | -0.0155 | .1371 | Y | 0.6684 | .0771 |
| 25 | Y | -0.1628 | -.2013 | Y | 0.3002 | .5308 |
| 26 | Y | -0.7102 | -.6127 | Y | 0.4897 | .4386 |
| 27 | Y | 0.0952 | .1683 | | | -.0671 |
| 28 | | | -.7785 | | | -.3992 |
| 29 | | | -.1635 | | | 1.3055 |
| 30 | | | -.7512 | | | .4587 |
| 31 | | | 1.7432 | | | 1.0009 |
| 32 | | | -.7187 | | | .4205 |
| 33 | | | .7922 | | | .0906 |
| 34 | | | -.4180 | | | -.9794 |
| 35 | | | .6236 | | | .2869 |
| 36 | | | .3707 | | | .7254 |
| 37 | | | 1.0373 | | | .6878 |
| 38 | | | .1139 | | | .9942 |
| 39 | Y | 0.1207 | -.1309 | | | -.5787 |
| 40 | Y | -0.3432 | -.4562 | | | .6643 |

Table A.3. Equating Constants Used to Equate 2007 Forms with 2006 Forms

| Subject | Equating Constant |
|----------------|--------------------------|
| English | 0.002029 |
| Mathematics | - 0.148767 |

Appendix B: Item Statistics

Tables B.1 and B.2 present item statistics for the standard 6 English and mathematics, respectively. The content of the tables are as follows.

Topic/Content Domain

Each item is mapped to the standard 6 pupil syllabus for the subject are in terms of the content assessed.

Cognitive Categories

Each item has been classified by the cognitive skill involved.

Pct_0, Pct_1:

Used for constructed-response items only, each column indicates the percentage of pupils scoring at the particular score level, up to and including the maximum score level for the item. Not-reached items were excluded from the denominator for these calculations.

Pct_A, Pct_B, Pct_C, and Pct_D:

Used for multiple-choice items only, each column indicates the percentage of pupils choosing the particular response option for the item (A, B, C, or D). Not Reached items were excluded from the denominator for these calculations.

Pct_DA:

Used for multiple-choice items only, this is the percentage of pupils that provided more than one response option for the same item. Not-reached items were excluded from the denominator for these calculations.

Pct_OM:

This is the percentage of pupils who, having reached the item, did not provide a response. Not reached items were excluded from the denominator when calculating this statistic.

Pct_NR:

This is the percentage of pupils that did not reach the item in their booklets. An item was coded as not reached when there was no evidence of a response to any subsequent items in the booklet and the response to the item preceding it was omitted.

Diff:

Item difficulty is the percentage of pupils providing a fully correct response to the item. For the computation of this statistic, “Not Reached” items were treated as “Not Administered.”

Disc:

Discrimination is the correlation between a correct response to the item and the total score on all the items in the test booklets. For constructed-response items, the discrimination is the correlation between the number of score points and total score. Items exhibiting good measurement properties should have a moderately positive correlation.

Table B.1. Item Statistics for standard 6 English instrument, Overall: 2007 PSSP:SFP Baseline Data Collection

| Item Seq | Topic/Content Domain | Cognitive Category | Pct_0 | Pct_1 | Pct_A | Pct_B | Pct_C | Pct_D | Pct_DA | Pct_OM | Pct_NR | Diff | Disc |
|----------|--------------------------|--------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|------|------|
| 1 | Language Structure & Use | Basic | | | 10.9 | 17.1 | 64.2 | 7.2 | 0.1 | 0.4 | 0.0 | 0.64 | 0.41 |
| 2 | Language Structure & Use | Basic | | | 34.7 | 36.1 | 15.2 | 12.9 | | 1.1 | 0.0 | 0.35 | 0.29 |
| 3 | Language Structure & Use | Basic | | | 26.2 | 26.1 | 24.4 | 22.6 | 0.0 | 0.7 | 0.0 | 0.26 | 0.16 |
| 4 | Language Structure & Use | Moderate | | | 12.8 | 8.3 | 65.8 | 12.1 | 0.1 | 0.9 | 0.0 | 0.66 | 0.15 |
| 5 | Language Structure & Use | High | | | 17.6 | 13.1 | 57.9 | 10.5 | 0.1 | 0.7 | 0.0 | 0.58 | 0.37 |
| 6 | Language Structure & Use | High | | | 39.8 | 16.4 | 21.1 | 21.6 | 0.1 | 0.9 | 0.0 | 0.40 | 0.26 |
| 7 | Language Structure & Use | Basic | | | 39.8 | 28.7 | 17.6 | 11.9 | 0.1 | 1.8 | 0.0 | 0.40 | 0.24 |
| 8 | Language Structure & Use | Moderate | 77.5 | 19.3 | | | | | | 3.1 | 0.0 | 0.19 | 0.39 |
| 9 | Language Structure & Use | Moderate | 89.7 | 5.6 | | | | | | 4.7 | 0.0 | 0.06 | 0.29 |
| 10 | Language Structure & Use | Moderate | 88.0 | 8.3 | | | | | | 3.7 | 0.0 | 0.08 | 0.33 |
| 11 | Language Structure & Use | Moderate | 84.4 | 12.2 | | | | | | 3.4 | 0.0 | 0.12 | 0.38 |
| 12 | Language Structure & Use | Moderate | 88.4 | 8.1 | | | | | | 3.4 | 0.0 | 0.08 | 0.30 |
| 13 | Language Structure & Use | Basic | 34.4 | 62.8 | | | | | | 2.8 | 0.0 | 0.63 | 0.32 |
| 14 | Language Structure & Use | Basic | 53.7 | 43.7 | | | | | | 2.5 | 0.0 | 0.44 | 0.26 |
| 15 | Language Structure & Use | Basic | 57.0 | 40.8 | | | | | | 2.1 | 0.0 | 0.41 | 0.46 |
| 16 | Language Structure & Use | Basic | 50.9 | 46.8 | | | | | | 2.3 | 0.0 | 0.47 | 0.35 |
| 17 | Reading Comprehension | Moderate | 53.6 | 35.5 | | | | | | 10.9 | 0.0 | 0.35 | 0.53 |
| 18 | Reading Comprehension | Basic | | | 62.9 | 10.9 | 16.7 | 1.9 | 5.6 | 2.0 | 0.0 | 0.63 | 0.45 |
| 19 | Reading Comprehension | Basic | 48.1 | 41.4 | | | | | | 10.5 | 0.0 | 0.41 | 0.59 |
| 20 | Reading Comprehension | Basic | | | 17.7 | 20.1 | 39.8 | 17.3 | 3.8 | 1.3 | 0.0 | 0.40 | 0.43 |
| 21 | Reading Comprehension | Basic | | | 53.3 | 22.5 | 12.0 | 11.5 | 0.1 | 0.6 | 0.0 | 0.53 | 0.42 |
| 22 | Reading Comprehension | Basic | | | 25.8 | 10.3 | 43.3 | 19.5 | 0.1 | 0.9 | 0.0 | 0.43 | 0.25 |
| 23 | Reading Comprehension | Moderate | | | 26.6 | 27.9 | 21.1 | 22.8 | 0.1 | 1.5 | 0.0 | 0.27 | 0.38 |
| 24 | Reading Comprehension | Moderate | | | 21.8 | 32.0 | 12.9 | 32.2 | 0.1 | 1.0 | 0.0 | 0.32 | 0.27 |
| 25 | Reading Comprehension | Basic | | | 19.2 | 13.2 | 28.1 | 38.7 | 0.3 | 0.4 | 0.0 | 0.39 | 0.44 |
| 26 | Reading Comprehension | Basic | | | 47.5 | 22.9 | 14.2 | 14.4 | 0.0 | 1.0 | 0.0 | 0.47 | 0.23 |
| 27 | Reading Comprehension | High | | | 18.1 | 31.4 | 25.5 | 24.0 | 0.2 | 0.8 | 0.0 | 0.31 | 0.17 |
| 28 | Reading Comprehension | Basic | 45.6 | 51.1 | | | | | | 3.3 | 0.1 | 0.51 | 0.63 |
| 29 | Reading Comprehension | Basic | | | 16.2 | 31.1 | 12.8 | 38.0 | 0.9 | 1.0 | 0.1 | 0.38 | 0.36 |
| 30 | Reading Comprehension | Moderate | | | 15.3 | 14.5 | 50.5 | 18.0 | 0.1 | 1.4 | 0.1 | 0.50 | 0.32 |
| 31 | Reading Comprehension | High | | | 44.7 | 19.7 | 24.4 | 9.9 | 0.1 | 1.1 | 0.1 | 0.10 | 0.15 |
| 32 | Reading Comprehension | Basic | 45.6 | 49.8 | | | | | | 4.4 | 0.2 | 0.50 | 0.58 |

PSSP: A School Fees Pilot

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| Item Seq | Topic/Content Domain | Cognitive Category | Pct_0 | Pct_1 | Pct_A | Pct_B | Pct_C | Pct_D | Pct_DA | Pct_OM | Pct_NR | Diff | Disc |
|----------|-----------------------|--------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|------|------|
| 33 | Reading Comprehension | Moderate | | | 20.8 | 36.8 | 8.8 | 31.5 | 0.7 | 1.2 | 0.2 | 0.21 | 0.18 |
| 34 | Reading Comprehension | High | | | 20.5 | 43.3 | 19.6 | 14.9 | 0.1 | 1.3 | 0.2 | 0.43 | 0.06 |
| 35 | Reading Comprehension | High | | | 13.6 | 23.7 | 23.4 | 37.6 | 0.2 | 1.3 | 0.2 | 0.23 | 0.35 |
| 36 | Reading Comprehension | Basic | 66.6 | 27.7 | | | | | | 5.3 | 0.5 | 0.28 | 0.53 |
| 37 | Reading Comprehension | Basic | 77.8 | 17.4 | | | | | | 4.2 | 0.6 | 0.17 | 0.40 |
| 38 | Reading Comprehension | Moderate | | | 24.2 | 32.4 | 17.9 | 21.8 | 1.3 | 1.6 | 0.6 | 0.32 | 0.19 |
| 39 | Reading Comprehension | Basic | 59.2 | 37.3 | | | | | | 0.4 | 3.1 | 0.37 | 0.37 |
| 40 | Reading Comprehension | Basic | 51.8 | 44.1 | | | | | | | 4.1 | 0.44 | 0.29 |

Table B.2. Item Statistics for standard 6 Mathematics instrument, Overall: 2007 PSSP:SFP Baseline Data Collection

| Item Seq | Topic/Content Domain | Cognitive Category | Pct_0 | Pct_1 | Pct_A | Pct_B | Pct_C | Pct_D | Pct_DA | Pct_OM | Pct_NR | Diff | Disc |
|----------|----------------------------|--------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|------|------|
| 1 | Number and Operations, WN | Knowledge | | | 56.4 | 5.5 | 31.8 | 4.7 | 0.4 | 1.1 | 0.0 | 0.56 | 0.38 |
| 2 | Number and Operations, WN | Knowledge | | | 20.5 | 10.1 | 48.4 | 18.5 | 0.9 | 1.5 | 0.0 | 0.48 | 0.35 |
| 3 | Number and Operations, WN | Knowledge | | | 40.6 | 19.2 | 19.2 | 16.8 | 1.7 | 2.4 | 0.0 | 0.41 | 0.37 |
| 4 | Number and Operations, WN | Knowledge | | | 24.3 | 8.9 | 9.6 | 54.3 | 0.6 | 2.3 | 0.0 | 0.54 | 0.39 |
| 5 | Geometry & Data | Knowledge | | | 22.6 | 2.1 | 5.2 | 64.3 | 0.8 | 4.9 | 0.1 | 0.64 | 0.35 |
| 6 | Geometry & Data | Knowledge | | | 11.6 | 10.6 | 48.0 | 25.1 | 2.0 | 2.6 | 0.1 | 0.48 | 0.28 |
| 7 | Measurement | Knowledge | | | 15.5 | 11.5 | 12.5 | 58.0 | 0.1 | 2.3 | 0.1 | 0.58 | 0.33 |
| 8 | Number and Operations, FDR | Knowledge | | | 85.3 | 6.5 | 5.4 | 2.1 | 0.3 | 0.4 | 0.1 | 0.85 | 0.24 |
| 9 | Number and Operations, FDR | Knowledge | | | 16.0 | 32.5 | 15.3 | 35.2 | 0.1 | 0.7 | 0.1 | 0.33 | 0.26 |
| 10 | Number and Operations, WN | Comprehension | 39.6 | 57.8 | | | | | | 2.5 | 0.1 | 0.58 | 0.41 |
| 11 | Number and Operations, WN | Comprehension | 18.5 | 81.2 | | | | | | 0.3 | 0.1 | 0.81 | 0.28 |
| 12 | Number and Operations, WN | Comprehension | 30.5 | 68.9 | | | | | | 0.5 | 0.1 | 0.69 | 0.46 |
| 13 | Number and Operations, FDR | Comprehension | 35.3 | 62.7 | | | | | | 1.9 | 0.1 | 0.63 | 0.48 |
| 14 | Number and Operations, FDR | Comprehension | 42.8 | 55.9 | | | | | | 1.2 | 0.1 | 0.56 | 0.51 |
| 15 | Number and Operations, FDR | Comprehension | 59.5 | 39.7 | | | | | | 0.7 | 0.1 | 0.40 | 0.50 |
| 16 | Number and Operations, WN | Comprehension | 66.6 | 29.7 | | | | | | 3.7 | 0.1 | 0.30 | 0.50 |
| 17 | Number and Operations, FDR | Comprehension | 70.6 | 25.8 | | | | | | 3.5 | 0.1 | 0.26 | 0.38 |
| 18 | Measurement | Knowledge | | | 12.4 | 45.4 | 17.4 | 22.8 | 0.0 | 1.9 | 0.1 | 0.45 | 0.25 |
| 19 | Measurement | Knowledge | | | 29.1 | 21.4 | 30.3 | 16.4 | 0.1 | 2.6 | 0.1 | 0.29 | 0.29 |
| 20 | Number and Operations, FDR | Comprehension | | | 11.7 | 23.9 | 16.6 | 43.9 | 0.1 | 3.7 | 0.1 | 0.44 | 0.23 |
| 21 | Number and Operations, FDR | Comprehension | | | 31.5 | 13.9 | 25.1 | 25.7 | 0.2 | 3.6 | 0.1 | 0.26 | 0.14 |
| 22 | Number and Operations, WN | Application | | | 11.1 | 38.9 | 15.5 | 30.8 | 1.1 | 2.4 | 0.1 | 0.39 | 0.38 |
| 23 | Number and Operations, WN | Application | | | 23.2 | 17.1 | 30.4 | 25.8 | 0.2 | 3.1 | 0.1 | 0.30 | 0.33 |
| 24 | Measurement | Comprehension | 50.0 | 41.9 | | | | | | 7.9 | 0.2 | 0.42 | 0.35 |
| 25 | Number and Operations, FDR | Application | | | 25.3 | 19.8 | 32.4 | 19.2 | 0.1 | 3.0 | 0.2 | 0.32 | 0.30 |
| 26 | Geometry & Data | Comprehension | | | 13.9 | 45.0 | 4.7 | 34.2 | 0.1 | 1.9 | 0.2 | 0.34 | 0.31 |
| 27 | Number and Operations, FDR | Application | | | 16.9 | 12.8 | 22.9 | 45.1 | 0.1 | 1.9 | 0.3 | 0.45 | 0.29 |
| 28 | Number and Operations, WN | Application | | | 15.8 | 11.7 | 17.2 | 52.5 | 0.1 | 2.4 | 0.3 | 0.53 | 0.20 |
| 29 | Geometry & Data | Comprehension | | | 9.3 | 19.1 | 50.6 | 18.0 | 0.5 | 2.1 | 0.3 | 0.19 | 0.14 |
| 30 | Number and Operations, WN | Application | | | 33.8 | 17.6 | 23.9 | 21.5 | 0.0 | 2.8 | 0.4 | 0.34 | 0.35 |
| 31 | Number and Operations, FDR | Application | | | 21.4 | 24.0 | 23.8 | 28.4 | 0.2 | 1.9 | 0.4 | 0.24 | 0.16 |

| Item Seq | Topic/Content Domain | Cognitive Category | Pct_0 | Pct_1 | Pct_A | Pct_B | Pct_C | Pct_D | Pct_DA | Pct_OM | Pct_NR | Diff | Disc |
|----------|----------------------------|--------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|------|-------|
| 32 | Number and Operations, WN | Comprehension | | | 34.6 | 27.6 | 14.1 | 19.1 | 1.6 | 2.7 | 0.4 | 0.35 | 0.31 |
| 33 | Geometry & Data | Application | | | 22.1 | 41.6 | 15.9 | 17.6 | 0.5 | 1.9 | 0.4 | 0.42 | 0.22 |
| 34 | Number and Operations, FDR | Knowledge | 17.0 | 65.1 | | | | | | 17.3 | 0.6 | 0.65 | 0.28 |
| 35 | Number and Operations, WN | Application | | | 15.7 | 37.4 | 18.2 | 25.7 | 0.3 | 2.1 | 0.6 | 0.37 | 0.32 |
| 36 | Measurement | Application | | | 28.6 | 16.6 | 19.8 | 31.8 | 0.1 | 2.3 | 0.9 | 0.29 | 0.13 |
| 37 | Geometry & Data | Comprehension | | | 29.3 | 8.0 | 34.4 | 25.9 | 0.6 | 0.8 | 0.9 | 0.29 | -0.02 |
| 38 | Geometry & Data | Application | | | 14.0 | 23.9 | 22.9 | 33.0 | 2.4 | 2.7 | 1.1 | 0.24 | 0.16 |
| 39 | Measurement | Comprehension | 39.6 | 56.5 | | | | | | 2.3 | 1.6 | 0.57 | 0.34 |
| 40 | Measurement | Application | | | 23.4 | 26.1 | 15.8 | 29.8 | 1.0 | | 4.0 | 0.30 | 0.09 |

Appendix C: Frequency Tables

Table C.1. Frequency of Total Scores for Standard 6 Pupils by Group: English, 2007

| Level | Raw Score | Theta | Scale Score | Intervention | | | Comparison | | |
|-------------------|-----------|---------|-------------|--------------|-----|-------|------------|-----|-------|
| | | | | Frequency | % | Cum.% | Frequency | % | Cum.% |
| Minimal | 0 | -5.1628 | 100 | 1 | 0.1 | 0.1 | - | - | - |
| | 1 | -3.9315 | 100 | 5 | 0.3 | 0.4 | - | - | - |
| | 2 | -3.1988 | 100 | 6 | 0.4 | 0.7 | 1 | 0.1 | 0.1 |
| | 3 | -2.7532 | 100 | 8 | 0.5 | 1.2 | 6 | 0.6 | 0.6 |
| | 4 | -2.4248 | 100 | 31 | 1.9 | 3.2 | 9 | 0.8 | 1.5 |
| | 5 | -2.1602 | 100 | 28 | 1.7 | 4.9 | 15 | 1.4 | 2.9 |
| | 6 | -1.9357 | 111 | 52 | 3.2 | 8.1 | 29 | 2.7 | 5.5 |
| | 7 | -1.7387 | 137 | 70 | 4.3 | 12.4 | 34 | 3.1 | 8.7 |
| | 8 | -1.5613 | 160 | 80 | 5.0 | 17.4 | 60 | 5.5 | 14.2 |
| Needs Improvement | 9 | -1.3987 | 181 | 71 | 4.4 | 21.8 | 71 | 6.6 | 20.8 |
| | 10 | -1.2477 | 200 | 106 | 6.6 | 28.3 | 64 | 5.9 | 26.7 |
| | 11 | -1.1055 | 219 | 90 | 5.6 | 33.9 | 73 | 6.7 | 33.5 |
| | 12 | -0.9706 | 236 | 109 | 6.7 | 40.7 | 78 | 7.2 | 40.7 |
| | 13 | -0.8413 | 253 | 91 | 5.6 | 46.3 | 86 | 7.9 | 48.6 |
| | 14 | -0.7165 | 269 | 103 | 6.4 | 52.7 | 62 | 5.7 | 54.3 |
| Proficient | 15 | -0.5954 | 285 | 78 | 4.8 | 57.5 | 60 | 5.5 | 59.9 |
| | 16 | -0.4770 | 300 | 79 | 4.9 | 62.4 | 58 | 5.4 | 65.2 |
| | 17 | -0.3608 | 315 | 58 | 3.6 | 66.0 | 55 | 5.1 | 70.3 |
| | 18 | -0.2461 | 330 | 75 | 4.6 | 70.6 | 55 | 5.1 | 75.4 |
| | 19 | -0.1322 | 345 | 61 | 3.8 | 74.4 | 55 | 5.1 | 80.5 |
| | 20 | -0.0188 | 360 | 67 | 4.1 | 78.5 | 46 | 4.3 | 84.8 |
| | 21 | 0.0949 | 374 | 51 | 3.2 | 81.7 | 35 | 3.2 | 88.0 |
| | 22 | 0.2093 | 389 | 51 | 3.2 | 84.8 | 38 | 3.5 | 91.5 |
| Advanced | 23 | 0.3250 | 404 | 52 | 3.2 | 88.1 | 20 | 1.8 | 93.3 |
| | 24 | 0.4424 | 420 | 54 | 3.3 | 91.4 | 26 | 2.4 | 95.7 |
| | 25 | 0.5624 | 435 | 32 | 2.0 | 93.4 | 17 | 1.6 | 97.3 |
| | 26 | 0.6858 | 451 | 33 | 2.0 | 95.4 | 5 | 0.5 | 97.8 |
| | 27 | 0.8131 | 468 | 15 | 0.9 | 96.3 | 12 | 1.1 | 98.9 |
| | 28 | 0.9456 | 485 | 31 | 1.9 | 98.3 | 2 | 0.2 | 99.1 |
| | 29 | 1.0844 | 500 | 9 | 0.6 | 98.8 | 1 | 0.1 | 99.2 |
| | 30 | 1.2311 | 500 | 9 | 0.6 | 99.4 | 2 | 0.2 | 99.4 |
| | 31 | 1.3876 | 500 | 3 | 0.2 | 99.6 | 0 | 0.0 | 99.4 |
| | 32 | 1.5565 | 500 | 3 | 0.2 | 99.8 | 3 | 0.3 | 99.6 |
| | 33 | 1.7413 | 500 | 4 | 0.2 | 100.0 | 0 | 0.0 | 99.6 |
| | 34 | 1.9474 | 500 | - | - | - | 1 | 0.1 | 99.7 |
| | 35 | 2.1824 | 500 | - | - | - | 1 | 0.1 | 99.8 |
| | 36 | 2.4596 | 500 | - | - | - | 1 | 0.1 | 99.9 |
| | 37 | 2.8030 | 500 | - | - | - | 0 | 0.0 | 99.9 |
| | 38 | 3.2666 | 500 | - | - | - | 1 | 0.1 | 100.0 |
| | 39 | 4.0209 | 500 | - | - | - | - | - | - |
| | 40 | 5.2699 | 500 | - | - | - | - | - | - |

Table C.2. Frequency of Total Scores for Standard 6 Pupils by Group and Gender: English, 2007

F= Frequency; P = Percentage; CP = Cumulative Percentage

| Level | Raw Score | Intervention | | | | | | Comparison | | | | | |
|-------------------|-----------|--------------|------|-------|-------|------|-------|------------|------|-------|-------|------|-------|
| | | Boys | | | Girls | | | Boys | | | Girls | | |
| | | F | P | CP | F | P | CP | F | P | CP | F | P | CP |
| Minimal | 0 | - | - | - | 1 | 0.1 | 0.1 | - | - | - | - | - | - |
| | 1 | 2 | 0.2 | 0.2 | 3 | 0.4 | 0.5 | - | - | - | - | - | - |
| | 2 | 4 | 0.5 | 0.7 | 2 | 0.3 | 0.8 | 1 | 0.2 | 0.2 | - | - | - |
| | 3 | 5 | 0.6 | 1.3 | 3 | 0.4 | 1.2 | 1 | 0.2 | 0.4 | 5 | 0.9 | 0.9 |
| | 4 | 20 | 2.4 | 3.7 | 11 | 1.4 | 2.6 | 5 | 0.9 | 1.3 | 4 | 0.7 | 1.6 |
| | 5 | 14 | 1.7 | 5.4 | 14 | 1.8 | 4.4 | 7 | 1.3 | 2.6 | 8 | 1.5 | 3.1 |
| | 6 | 31 | 3.7 | 9.1 | 21 | 2.7 | 7.1 | 11 | 2.1 | 4.7 | 18 | 3.3 | 6.4 |
| | 7 | 26 | 3.1 | 12.2 | 44 | 5.6 | 12.7 | 16 | 3.0 | 7.7 | 18 | 3.3 | 9.7 |
| | 8 | 34 | 4.1 | 16.3 | 46 | 5.9 | 18.6 | 18 | 3.4 | 11.0 | 42 | 7.7 | 17.3 |
| 9 | 34 | 4.1 | 20.3 | 37 | 4.7 | 23.3 | 31 | 5.8 | 16.9 | 40 | 7.3 | 24.6 | |
| Needs Improvement | 10 | 53 | 6.3 | 26.7 | 53 | 6.8 | 30.1 | 32 | 6.0 | 22.8 | 32 | 5.8 | 30.5 |
| | 11 | 47 | 5.6 | 32.3 | 43 | 5.5 | 35.6 | 38 | 7.1 | 30.0 | 35 | 6.4 | 36.9 |
| | 12 | 55 | 6.6 | 38.9 | 54 | 6.9 | 42.6 | 34 | 6.4 | 36.3 | 44 | 8.0 | 44.9 |
| | 13 | 40 | 4.8 | 43.7 | 51 | 6.5 | 49.1 | 43 | 8.1 | 44.4 | 43 | 7.8 | 52.7 |
| | 14 | 40 | 4.8 | 48.4 | 63 | 8.1 | 57.2 | 30 | 5.6 | 50.0 | 32 | 5.8 | 58.6 |
| 15 | 38 | 4.5 | 53.0 | 40 | 5.1 | 62.3 | 32 | 6.0 | 56.0 | 28 | 5.1 | 63.7 | |
| Proficient | 16 | 47 | 5.6 | 58.6 | 32 | 4.1 | 66.4 | 23 | 4.3 | 60.3 | 35 | 6.4 | 70.1 |
| | 17 | 37 | 4.4 | 63.0 | 21 | 2.7 | 69.1 | 27 | 5.1 | 65.4 | 28 | 5.1 | 75.2 |
| | 18 | 39 | 4.7 | 67.7 | 36 | 4.6 | 73.7 | 29 | 5.4 | 70.8 | 26 | 4.7 | 79.9 |
| | 19 | 34 | 4.1 | 71.8 | 27 | 3.5 | 77.2 | 31 | 5.8 | 76.6 | 24 | 4.4 | 84.3 |
| | 20 | 38 | 4.5 | 76.3 | 29 | 3.7 | 80.9 | 24 | 4.5 | 81.1 | 22 | 4.0 | 88.3 |
| | 21 | 28 | 3.3 | 79.7 | 23 | 2.9 | 83.8 | 23 | 4.3 | 85.4 | 12 | 2.2 | 90.5 |
| | 22 | 27 | 3.2 | 82.9 | 24 | 3.1 | 86.9 | 23 | 4.3 | 89.7 | 15 | 2.7 | 93.2 |
| | 23 | 26 | 3.1 | 86.0 | 26 | 3.3 | 90.3 | 11 | 2.1 | 91.8 | 9 | 1.6 | 94.9 |
| Advanced | 24 | 28 | 3.3 | 89.4 | 26 | 3.3 | 93.6 | 16 | 3.0 | 94.8 | 10 | 1.8 | 96.7 |
| | 25 | 18 | 2.2 | 91.5 | 14 | 1.8 | 95.4 | 9 | 1.7 | 96.4 | 8 | 1.5 | 98.2 |
| | 26 | 26 | 3.1 | 94.6 | 7 | 0.9 | 96.3 | 4 | 0.7 | 97.2 | 1 | 0.2 | 98.4 |
| | 27 | 8 | 1.0 | 95.6 | 7 | 0.9 | 97.2 | 7 | 1.3 | 98.5 | 5 | 0.9 | 99.3 |
| | 28 | 19 | 2.3 | 97.8 | 12 | 1.5 | 98.7 | 1 | 0.2 | 98.7 | 1 | 0.2 | 99.5 |
| | 29 | 6 | 0.7 | 98.6 | 3 | 0.4 | 99.1 | 0 | 0 | 98.7 | 1 | 0.2 | 99.6 |
| | 30 | 6 | 0.7 | 99.3 | 3 | 0.4 | 99.5 | 0 | 0 | 98.7 | 2 | 0.4 | 100.0 |
| | 31 | 3 | 0.4 | 99.6 | 0 | 0.0 | 99.5 | 0 | 0 | 98.7 | - | - | - |
| | 32 | 2 | 0.2 | 99.9 | 1 | 0.1 | 99.6 | 3 | 0.6 | 99.3 | - | - | - |
| | 33 | 1 | 0.1 | 100.0 | 3 | 0.4 | 100.0 | 0 | 0 | 99.3 | - | - | - |
| | 34 | - | - | - | - | - | - | 1 | 0.2 | 99.4 | - | - | - |
| | 35 | - | - | - | - | - | - | 1 | 0.2 | 99.6 | - | - | - |
| | 36 | - | - | - | - | - | - | 1 | 0.2 | 99.8 | - | - | - |
| | 37 | - | - | - | - | - | - | 0 | 0 | 99.8 | - | - | - |
| | 38 | - | - | - | - | - | - | 1 | 0.2 | 100.0 | - | - | - |
| | 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 40 | - | - | - | - | - | - | - | - | - | - | - | - |

Table C.3. Frequency of Total Scores for Standard 6 Pupils by Group and OVC Status: English, 2007

F= Frequency; P = Percentage; CP = Cumulative Percentage

| Level | Raw Score | Intervention | | | | | | Comparison | | | | | |
|-------------------|-----------|--------------|-----|-------|---------|-----|-------|------------|-----|-------|---------|-----|-------|
| | | OVC | | | Non-OVC | | | OVC | | | Non-OVC | | |
| | | F | P | CP | F | P | CP | F | P | CP | F | P | CP |
| Minimal | 0 | - | - | - | 1 | 0.1 | 0.1 | - | - | - | - | - | - |
| | 1 | 2 | 1.0 | 1.0 | 3 | 0.2 | 0.3 | - | - | - | - | - | - |
| | 2 | 1 | 0.5 | 1.6 | 5 | 0.4 | 0.6 | - | - | - | 1 | 0.1 | 0.1 |
| | 3 | 1 | 0.5 | 2.1 | 7 | 0.5 | 1.1 | 2 | 1.2 | 1.2 | 4 | 0.4 | 0.5 |
| | 4 | 3 | 1.6 | 3.6 | 28 | 2.0 | 3.1 | 2 | 1.2 | 2.4 | 7 | 0.8 | 1.3 |
| | 5 | 1 | 0.5 | 4.1 | 27 | 1.9 | 5.0 | 3 | 1.8 | 4.2 | 12 | 1.3 | 2.6 |
| | 6 | 3 | 1.6 | 5.7 | 49 | 3.4 | 8.4 | 4 | 2.4 | 6.7 | 25 | 2.7 | 5.3 |
| | 7 | 10 | 5.2 | 10.9 | 60 | 4.2 | 12.6 | 6 | 3.6 | 10.3 | 28 | 3.1 | 8.4 |
| | 8 | 8 | 4.1 | 15.0 | 72 | 5.1 | 17.7 | 14 | 8.5 | 18.8 | 46 | 5.0 | 13.4 |
| Needs Improvement | 9 | 11 | 5.7 | 20.7 | 60 | 4.2 | 21.9 | 10 | 6.1 | 24.8 | 61 | 6.7 | 20.1 |
| | 10 | 14 | 7.3 | 28.0 | 92 | 6.5 | 28.4 | 7 | 4.2 | 29.1 | 57 | 6.2 | 26.3 |
| | 11 | 8 | 4.1 | 32.1 | 82 | 5.8 | 34.2 | 12 | 7.3 | 36.4 | 61 | 6.7 | 32.9 |
| | 12 | 13 | 6.7 | 38.9 | 96 | 6.7 | 40.9 | 8 | 4.8 | 41.2 | 70 | 7.6 | 40.6 |
| | 13 | 7 | 3.6 | 42.5 | 84 | 5.9 | 46.8 | 7 | 4.2 | 45.5 | 79 | 8.6 | 49.2 |
| Proficient | 14 | 13 | 6.7 | 49.2 | 90 | 6.3 | 53.1 | 6 | 3.6 | 49.1 | 56 | 6.1 | 55.3 |
| | 15 | 4 | 2.1 | 51.3 | 74 | 5.2 | 58.3 | 14 | 8.5 | 57.6 | 46 | 5.0 | 60.3 |
| | 16 | 10 | 5.2 | 56.5 | 69 | 4.8 | 63.2 | 9 | 5.5 | 63.0 | 49 | 5.3 | 65.6 |
| | 17 | 6 | 3.1 | 59.6 | 52 | 3.7 | 66.8 | 9 | 5.5 | 68.5 | 46 | 5.0 | 70.7 |
| | 18 | 14 | 7.3 | 66.8 | 61 | 4.3 | 71.1 | 10 | 6.1 | 74.5 | 45 | 4.9 | 75.6 |
| | 19 | 9 | 4.7 | 71.5 | 52 | 3.7 | 74.8 | 5 | 3.0 | 77.6 | 50 | 5.5 | 81.0 |
| | 20 | 9 | 4.7 | 76.2 | 58 | 4.1 | 78.8 | 8 | 4.8 | 82.4 | 38 | 4.1 | 85.2 |
| | 21 | 5 | 2.6 | 78.8 | 46 | 3.2 | 82.1 | 5 | 3.0 | 85.5 | 30 | 3.3 | 88.4 |
| | 22 | 4 | 2.1 | 80.8 | 47 | 3.3 | 85.4 | 6 | 3.6 | 89.1 | 32 | 3.5 | 91.9 |
| | 23 | 10 | 5.2 | 86.0 | 42 | 3.0 | 88.3 | 8 | 4.8 | 93.9 | 12 | 1.3 | 93.2 |
| Advanced | 24 | 6 | 3.1 | 89.1 | 48 | 3.4 | 91.7 | 5 | 3.0 | 97.0 | 21 | 2.3 | 95.5 |
| | 25 | 4 | 2.1 | 91.2 | 28 | 2.0 | 93.7 | 2 | 1.2 | 98.2 | 15 | 1.6 | 97.2 |
| | 26 | 7 | 3.6 | 94.8 | 26 | 1.8 | 95.5 | 0 | 0.0 | 98.2 | 5 | 0.5 | 97.7 |
| | 27 | 3 | 1.6 | 96.4 | 12 | 0.8 | 96.3 | 1 | 0.6 | 98.8 | 11 | 1.2 | 98.9 |
| | 28 | 2 | 1.0 | 97.4 | 29 | 2.0 | 98.4 | 0 | 0.0 | 98.8 | 2 | 0.2 | 99.1 |
| | 29 | 2 | 1.0 | 98.4 | 7 | 0.5 | 98.9 | 0 | 0.0 | 98.8 | 1 | 0.1 | 99.2 |
| | 30 | 2 | 1.0 | 99.5 | 7 | 0.5 | 99.4 | 0 | 0.0 | 98.8 | 2 | 0.2 | 99.5 |
| | 31 | 0 | 0.0 | 99.5 | 3 | 0.2 | 99.6 | 0 | 0.0 | 98.8 | 0 | 0.0 | 99.5 |
| | 32 | 1 | 0.5 | 100.0 | 2 | 0.1 | 99.7 | 1 | 0.6 | 99.4 | 2 | 0.2 | 99.7 |
| | 33 | - | - | - | 4 | 0.3 | 100.0 | 0 | 0.0 | 99.4 | 0 | 0.0 | 99.7 |
| | 34 | - | - | - | - | - | - | 0 | 0.0 | 99.4 | 1 | 0.1 | 99.8 |
| | 35 | - | - | - | - | - | - | 0 | 0.0 | 99.4 | 1 | 0.1 | 99.9 |
| | 36 | - | - | - | - | - | - | 0 | 0.0 | 99.4 | 1 | 0.1 | 100.0 |
| | 37 | - | - | - | - | - | - | 0 | 0.0 | 99.4 | - | - | - |
| | 38 | - | - | - | - | - | - | 1 | 0.6 | 100.0 | - | - | - |
| | 39 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 40 | - | - | - | - | - | - | - | - | - | - | - | - |

Table C.4. Frequency of Total Scores for Standard 6 Pupils by Group: Mathematics, 2007

| Level | Raw Score | Theta | Scale Score | Intervention | | | Comparison | | |
|-------------------|-----------|---------|-------------|--------------|-----|-------|------------|-----|-------|
| | | | | Frequency | % | Cum.% | Frequency | % | Cum.% |
| Minimal | 0 | -5.2686 | 100 | 1 | 0.1 | 0.1 | 1 | 0.1 | 0.1 |
| | 1 | -4.0270 | 100 | 0 | 0.0 | .01 | 0 | 0.0 | 0.1 |
| | 2 | -3.2808 | 100 | 1 | 0.1 | 0.1 | 0 | 0.0 | 0.1 |
| | 3 | -2.8231 | 100 | 1 | 0.1 | 0.2 | 0 | 0.0 | 0.1 |
| | 4 | -2.4838 | 100 | 2 | 0.1 | 0.3 | 1 | 0.1 | 0.2 |
| | 5 | -2.2095 | 100 | 11 | 0.7 | 1.0 | 1 | 0.1 | 0.3 |
| | 6 | -1.9762 | 100 | 13 | 0.8 | 1.8 | 5 | 0.5 | 0.7 |
| | 7 | -1.7712 | 117 | 18 | 1.1 | 2.9 | 15 | 1.4 | 2.1 |
| | 8 | -1.5867 | 140 | 23 | 1.4 | 4.3 | 16 | 1.5 | 3.6 |
| | 9 | -1.4178 | 162 | 54 | 3.3 | 7.7 | 28 | 2.6 | 6.2 |
| Needs Improvement | 10 | -1.2608 | 181 | 41 | 2.5 | 10.2 | 47 | 4.3 | 10.5 |
| | 11 | -1.1135 | 200 | 79 | 4.9 | 15.1 | 44 | 4.1 | 14.6 |
| | 12 | -0.9737 | 217 | 73 | 4.5 | 19.6 | 59 | 5.5 | 20.1 |
| | 13 | -0.8400 | 234 | 80 | 5.0 | 24.6 | 74 | 6.8 | 26.9 |
| | 14 | -0.7112 | 250 | 110 | 6.8 | 31.4 | 70 | 6.5 | 33.4 |
| | 15 | -0.5864 | 266 | 110 | 6.8 | 38.2 | 72 | 6.7 | 40.0 |
| Proficient | 16 | -0.4648 | 281 | 102 | 6.3 | 44.5 | 77 | 7.1 | 47.1 |
| | 17 | -0.3455 | 296 | 104 | 6.4 | 50.9 | 86 | 7.9 | 55.1 |
| | 18 | -0.2280 | 311 | 82 | 5.1 | 56.0 | 72 | 6.7 | 61.7 |
| | 19 | -0.1117 | 326 | 84 | 5.2 | 61.2 | 70 | 6.5 | 68.2 |
| | 20 | 0.0041 | 340 | 114 | 7.1 | 68.3 | 62 | 5.7 | 73.9 |
| | 21 | 0.1197 | 355 | 95 | 5.9 | 74.1 | 49 | 4.5 | 78.5 |
| | 22 | 0.2358 | 369 | 76 | 4.7 | 78.8 | 43 | 4.0 | 82.4 |
| | 23 | 0.3529 | 384 | 62 | 3.8 | 82.7 | 48 | 4.4 | 86.9 |
| Advanced | 24 | 0.4716 | 399 | 64 | 4.0 | 86.6 | 27 | 2.5 | 89.4 |
| | 25 | 0.5927 | 414 | 52 | 3.2 | 89.9 | 33 | 3.0 | 92.4 |
| | 26 | 0.7166 | 430 | 38 | 2.4 | 92.2 | 20 | 1.8 | 94.3 |
| | 27 | 0.8444 | 446 | 35 | 2.2 | 94.4 | 21 | 1.9 | 96.2 |
| | 28 | 0.9770 | 462 | 27 | 1.7 | 96.0 | 13 | 1.2 | 97.4 |
| | 29 | 1.1155 | 480 | 28 | 1.7 | 97.8 | 11 | 1.0 | 98.4 |
| | 30 | 1.2615 | 498 | 13 | 0.8 | 98.6 | 6 | 0.6 | 99.0 |
| | 31 | 1.4169 | 500 | 10 | 0.6 | 99.2 | 3 | 0.3 | 99.3 |
| | 32 | 1.5843 | 500 | 4 | 0.2 | 99.4 | 2 | 0.2 | 99.4 |
| | 33 | 1.7671 | 500 | 4 | 0.2 | 99.7 | 3 | 0.3 | 99.7 |
| | 34 | 1.9705 | 500 | 2 | 0.1 | 99.8 | 2 | 0.2 | 99.9 |
| | 35 | 2.2023 | 500 | 0 | 0.0 | 99.8 | 0 | 0.0 | 99.9 |
| | 36 | 2.4754 | 500 | 2 | 0.1 | 99.9 | 0 | 0.0 | 99.9 |
| | 37 | 2.8140 | 500 | 0 | 0.0 | 99.9 | 0 | 0.0 | 99.9 |
| | 38 | 3.2719 | 500 | 1 | 0.1 | 100.0 | 0 | 0.0 | 99.9 |
| | 39 | 4.0197 | 500 | - | - | - | 1 | 0.1 | 100.0 |
| | 40 | 5.2635 | 500 | - | - | - | - | - | - |

Table C.5. Frequency of Total Scores for Standard 6 Pupils by Group and Gender: Mathematics, 2007

F= Frequency; P = Percentage; CP = Cumulative Percentage

| Level | Raw Score | Intervention | | | | | | Comparison | | | | | |
|-------------------|-----------|--------------|-----|-------|-------|------|-------|------------|-----|-------|-------|------|-------|
| | | Boys | | | Girls | | | Boys | | | Girls | | |
| | | F | P | CP | F | P | CP | F | P | CP | F | P | CP |
| Minimal | 0 | - | - | - | 1 | 0.1 | 0.1 | - | - | - | 1 | 0.2 | 0.2 |
| | 1 | - | - | - | 0 | 0.0 | 0.1 | - | - | - | 0 | 0.0 | 0.2 |
| | 2 | - | - | - | 1 | 0.1 | 0.3 | - | - | - | 0 | 0.0 | 0.2 |
| | 3 | - | - | - | 1 | 0.1 | 0.4 | - | - | - | 0 | 0.0 | 0.2 |
| | 4 | 1 | 0.1 | 0.1 | 1 | 0.1 | 0.5 | 1 | 0.2 | 0.2 | 0 | 0.0 | 0.2 |
| | 5 | 4 | 0.5 | 0.6 | 7 | 0.9 | 1.4 | 0 | 0 | 0.2 | 1 | 0.2 | 0.4 |
| | 6 | 4 | 0.5 | 1.1 | 9 | 1.2 | 2.6 | 3 | 0.6 | 0.7 | 2 | 0.4 | 0.7 |
| | 7 | 6 | 0.7 | 1.8 | 12 | 1.5 | 4.1 | 4 | 0.7 | 1.5 | 11 | 2.0 | 2.7 |
| | 8 | 9 | 1.1 | 2.9 | 14 | 1.8 | 5.9 | 2 | 0.4 | 1.9 | 14 | 2.6 | 5.3 |
| | 9 | 28 | 3.3 | 6.2 | 26 | 3.3 | 9.2 | 7 | 1.3 | 3.2 | 21 | 3.8 | 9.1 |
| 10 | 12 | 1.4 | 7.7 | 29 | 3.7 | 12.9 | 21 | 3.9 | 7.1 | 26 | 4.7 | 13.9 | |
| Needs Improvement | 11 | 34 | 4.1 | 11.7 | 45 | 5.8 | 18.7 | 18 | 3.4 | 10.5 | 26 | 4.7 | 18.6 |
| | 12 | 26 | 3.1 | 14.8 | 47 | 6.0 | 24.7 | 21 | 3.9 | 14.4 | 38 | 6.9 | 25.5 |
| | 13 | 31 | 3.7 | 18.5 | 49 | 6.3 | 31.0 | 30 | 5.6 | 20.0 | 44 | 8.0 | 33.6 |
| | 14 | 47 | 5.6 | 24.2 | 63 | 8.1 | 39.1 | 33 | 6.2 | 26.2 | 37 | 6.8 | 40.3 |
| | 15 | 54 | 6.5 | 30.6 | 56 | 7.2 | 46.3 | 25 | 4.7 | 30.9 | 47 | 8.6 | 48.9 |
| | 16 | 52 | 6.2 | 36.8 | 50 | 6.4 | 52.7 | 29 | 5.4 | 36.3 | 48 | 8.8 | 57.7 |
| Proficient | 17 | 47 | 5.6 | 42.5 | 57 | 7.3 | 60.0 | 39 | 7.3 | 43.6 | 47 | 8.6 | 66.2 |
| | 18 | 40 | 4.8 | 47.2 | 42 | 5.4 | 65.4 | 44 | 8.2 | 51.9 | 28 | 5.1 | 71.4 |
| | 19 | 43 | 5.1 | 52.4 | 41 | 5.3 | 70.6 | 37 | 6.9 | 58.8 | 33 | 6.0 | 77.4 |
| | 20 | 67 | 8.0 | 60.4 | 47 | 6.0 | 76.7 | 31 | 5.8 | 64.6 | 31 | 5.7 | 83.0 |
| | 21 | 56 | 6.7 | 67.1 | 39 | 5.0 | 81.7 | 32 | 6.0 | 70.6 | 17 | 3.1 | 86.1 |
| | 22 | 39 | 4.7 | 71.8 | 37 | 4.7 | 86.4 | 30 | 5.6 | 76.2 | 13 | 2.4 | 88.5 |
| | 23 | 33 | 3.9 | 75.7 | 29 | 3.7 | 90.1 | 28 | 5.2 | 81.5 | 20 | 3.6 | 92.2 |
| | 24 | 47 | 5.6 | 81.3 | 17 | 2.2 | 92.3 | 18 | 3.4 | 84.8 | 9 | 1.6 | 93.8 |
| Advanced | 25 | 32 | 3.8 | 85.2 | 20 | 2.6 | 94.9 | 24 | 4.5 | 89.3 | 9 | 1.6 | 95.4 |
| | 26 | 26 | 3.1 | 88.3 | 12 | 1.5 | 96.4 | 10 | 1.9 | 91.2 | 10 | 1.8 | 97.3 |
| | 27 | 28 | 3.3 | 91.6 | 7 | 0.9 | 97.3 | 14 | 2.6 | 93.8 | 7 | 1.3 | 98.5 |
| | 28 | 13 | 1.6 | 93.2 | 14 | 1.8 | 99.1 | 9 | 1.7 | 95.5 | 4 | 0.7 | 99.3 |
| | 29 | 25 | 3.0 | 96.2 | 3 | 0.4 | 99.5 | 9 | 1.7 | 97.2 | 2 | 0.4 | 99.6 |
| | 30 | 11 | 1.3 | 97.5 | 2 | 0.3 | 99.7 | 4 | 0.7 | 97.9 | 2 | 0.4 | 100.0 |
| | 31 | 8 | 1.0 | 98.4 | 2 | 0.3 | 100.0 | 3 | 0.6 | 98.5 | - | - | - |
| | 32 | 4 | 0.5 | 98.9 | - | - | - | 2 | 0.4 | 98.9 | - | - | - |
| | 33 | 4 | 0.5 | 99.4 | - | - | - | 3 | 0.6 | 99.4 | - | - | - |
| | 34 | 2 | 0.2 | 99.6 | - | - | - | 2 | 0.4 | 99.8 | - | - | - |
| | 35 | 0 | 0 | 99.6 | - | - | - | 0 | 0 | 99.8 | - | - | - |
| | 36 | 2 | 0.2 | 99.9 | - | - | - | 0 | 0 | 99.8 | - | - | - |
| | 37 | 0 | 0 | 99.9 | - | - | - | 0 | 0 | 99.8 | - | - | - |
| | 38 | 1 | 0.1 | 100.0 | - | - | - | 0 | 0 | 99.8 | - | - | - |
| | 39 | - | - | - | - | - | - | 1 | 0.2 | 100.0 | - | - | - |
| | 40 | - | - | - | - | - | - | - | - | - | - | - | - |

Table C.6. Frequency of Total Scores for Standard 6 Pupils by Group and OVC Status: Mathematics, 2007

F= Frequency; P = Percentage; CP = Cumulative Percentage

| Level | Raw Score | Intervention | | | | | | Comparison | | | | | |
|-------------------|-----------|--------------|------|-------|---------|------|-------|------------|------|-------|---------|------|-------|
| | | OVC | | | Non-OVC | | | OVC | | | Non-OVC | | |
| | | F | P | CP | F | P | CP | F | P | CP | F | P | CP |
| Minimal | 0 | - | - | - | 1 | 0.1 | 0.1 | - | - | - | 1 | 0.1 | 0.1 |
| | 1 | - | - | - | 0 | 0.0 | - | - | - | - | - | - | - |
| | 2 | - | - | - | 1 | 0.1 | 0.1 | - | - | - | - | - | - |
| | 3 | - | - | - | 1 | 0.1 | 0.2 | - | - | - | - | - | - |
| | 4 | - | - | - | 2 | 0.1 | 0.4 | - | - | - | 1 | 0.1 | 0.2 |
| | 5 | - | - | - | 11 | 0.8 | 1.1 | - | - | - | 1 | 0.1 | 0.3 |
| | 6 | 1 | 0.5 | 0.5 | 12 | 0.8 | 2.0 | 2 | 1.2 | 1.2 | 3 | 0.3 | 0.7 |
| | 7 | 2 | 1.0 | 1.6 | 16 | 1.1 | 3.1 | 1 | 0.6 | 1.8 | 14 | 1.5 | 2.2 |
| | 8 | 4 | 2.1 | 3.6 | 19 | 1.3 | 4.4 | 2 | 1.2 | 3.0 | 14 | 1.5 | 3.7 |
| | 9 | 9 | 4.7 | 8.3 | 45 | 3.2 | 7.6 | 6 | 3.6 | 6.7 | 22 | 2.4 | 6.1 |
| 10 | 5 | 2.6 | 10.9 | 36 | 2.5 | 10.1 | 6 | 3.6 | 10.3 | 41 | 4.5 | 10.6 | |
| Needs Improvement | 11 | 9 | 4.7 | 15.5 | 70 | 4.9 | 15.0 | 5 | 3.0 | 13.3 | 39 | 4.3 | 14.8 |
| | 12 | 7 | 3.6 | 19.2 | 66 | 4.6 | 19.7 | 7 | 4.2 | 17.6 | 52 | 5.7 | 20.5 |
| | 13 | 9 | 4.7 | 23.8 | 71 | 5.0 | 24.7 | 11 | 6.7 | 24.2 | 63 | 6.9 | 27.4 |
| | 14 | 17 | 8.8 | 32.6 | 93 | 6.5 | 31.2 | 12 | 7.3 | 31.5 | 58 | 6.3 | 33.7 |
| | 15 | 10 | 5.2 | 37.8 | 100 | 7.0 | 38.2 | 15 | 9.1 | 40.6 | 57 | 6.2 | 39.9 |
| | 16 | 15 | 7.8 | 45.6 | 87 | 6.1 | 44.3 | 15 | 9.1 | 49.7 | 62 | 6.8 | 46.7 |
| Proficient | 17 | 11 | 5.7 | 51.3 | 93 | 6.5 | 50.9 | 15 | 9.1 | 58.8 | 71 | 7.7 | 54.4 |
| | 18 | 11 | 5.7 | 57.0 | 71 | 5.0 | 55.9 | 8 | 4.8 | 63.6 | 64 | 7.0 | 61.4 |
| | 19 | 9 | 4.7 | 61.7 | 75 | 5.3 | 61.1 | 8 | 4.8 | 68.5 | 62 | 6.8 | 68.2 |
| | 20 | 12 | 6.2 | 67.9 | 102 | 7.2 | 68.3 | 6 | 3.6 | 72.1 | 56 | 6.1 | 74.3 |
| | 21 | 22 | 11.4 | 79.3 | 73 | 5.1 | 73.4 | 7 | 4.2 | 76.4 | 42 | 4.6 | 78.8 |
| | 22 | 3 | 1.6 | 80.8 | 73 | 5.1 | 78.6 | 6 | 3.6 | 80.0 | 37 | 4.0 | 82.9 |
| | 23 | 7 | 3.6 | 84.5 | 55 | 3.9 | 82.4 | 10 | 6.1 | 86.1 | 38 | 4.1 | 87.0 |
| | 24 | 12 | 6.2 | 90.7 | 52 | 3.7 | 86.1 | 5 | 3.0 | 89.1 | 22 | 2.4 | 89.4 |
| Advanced | 25 | 6 | 3.1 | 93.8 | 46 | 3.2 | 89.3 | 7 | 4.2 | 93.3 | 26 | 2.8 | 92.3 |
| | 26 | 5 | 2.6 | 96.4 | 33 | 2.3 | 91.6 | 4 | 2.4 | 95.8 | 16 | 1.7 | 94.0 |
| | 27 | 2 | 1.0 | 97.4 | 33 | 2.3 | 94.0 | 2 | 1.2 | 97.0 | 19 | 2.1 | 96.1 |
| | 28 | 1 | 0.5 | 97.9 | 26 | 1.8 | 95.8 | 1 | 0.6 | 97.6 | 12 | 1.3 | 97.4 |
| | 29 | 1 | 0.5 | 98.4 | 27 | 1.9 | 97.7 | 2 | 1.2 | 98.8 | 9 | 1.0 | 98.4 |
| | 30 | 1 | 0.5 | 99.0 | 12 | 0.8 | 98.5 | 0 | 0.0 | 98.8 | 6 | 0.7 | 99.0 |
| | 31 | 1 | 0.5 | 99.5 | 9 | 0.6 | 99.2 | 0 | 0.0 | 98.8 | 3 | 0.3 | 99.3 |
| | 32 | 0 | 0.0 | 99.5 | 4 | 0.3 | 99.4 | 0 | 0.0 | 98.8 | 2 | 0.2 | 99.6 |
| | 33 | 0 | 0.0 | 99.5 | 4 | 0.3 | 99.7 | 1 | 0.6 | 99.4 | 2 | 0.2 | 99.8 |
| | 34 | 1 | 0.5 | 100.0 | 1 | 0.1 | 99.8 | 0 | 0.0 | 99.4 | 2 | 0.2 | 100.0 |
| | 35 | - | - | - | 0 | 0.0 | 99.8 | 0 | 0.0 | 99.4 | 0 | 0.0 | - |
| | 36 | - | - | - | 2 | 0.1 | 99.9 | 0 | 0.0 | 99.4 | 0 | 0.0 | - |
| | 37 | - | - | - | 0 | 0.0 | 99.9 | 0 | 0.0 | 99.4 | 0 | 0.0 | - |
| | 38 | - | - | - | 1 | 0.1 | 100.0 | 0 | 0.0 | 99.4 | 0 | 0.0 | - |
| | 39 | - | - | - | 0 | 0.0 | 100.0 | 1 | 0.6 | 100.0 | 0 | 0.0 | - |
| | 40 | - | - | - | - | - | - | - | - | - | - | - | - |

Table C.7. Frequency of Total Scores for Standard 1 Pupils by Group: Chichewa, 2007

| Level | Raw Score | Intervention | | | Comparison | | |
|----------|-----------|--------------|------|-------|------------|------|-------|
| | | Frequency | % | Cum.% | Frequency | % | Cum.% |
| Minimal | 0 | 1 | 0.3 | 0.3 | 1 | 0.4 | 0.4 |
| | 1 | 0 | 0.0 | 0.3 | 1 | 0.4 | 0.8 |
| | 2 | 4 | 1.1 | 1.4 | 10 | 4.2 | 5.0 |
| | 3 | 3 | 0.8 | 2.3 | 17 | 7.1 | 12.1 |
| | 4 | 9 | 2.5 | 4.8 | 20 | 8.3 | 20.4 |
| | 5 | 14 | 4.0 | 8.8 | 19 | 7.9 | 28.3 |
| | 6 | 18 | 5.1 | 13.8 | 23 | 9.6 | 37.9 |
| | 7 | 23 | 6.5 | 20.3 | 35 | 14.6 | 52.5 |
| | 8 | 32 | 9.0 | 29.4 | 30 | 12.5 | 65.0 |
| | 9 | 36 | 10.2 | 39.5 | 25 | 10.4 | 75.4 |
| | 10 | 33 | 9.3 | 48.9 | 20 | 8.3 | 83.8 |
| Passing | 11 | 25 | 7.1 | 55.9 | 16 | 6.7 | 90.4 |
| | 12 | 37 | 10.5 | 66.4 | 8 | 3.3 | 93.8 |
| | 13 | 32 | 9.0 | 75.4 | 4 | 1.7 | 95.4 |
| | 14 | 12 | 3.4 | 78.8 | 6 | 2.5 | 97.9 |
| | 15 | 20 | 5.6 | 84.5 | 1 | 0.4 | 98.3 |
| | 16 | 18 | 5.1 | 89.5 | 1 | 0.4 | 98.8 |
| Advanced | 17 | 10 | 2.8 | 92.4 | 0 | 0.0 | 98.8 |
| | 18 | 8 | 2.3 | 94.6 | 0 | 0.0 | 98.8 |
| | 19 | 6 | 1.7 | 96.3 | 1 | 0.4 | 99.2 |
| | 20 | 3 | 0.8 | 97.2 | 1 | 0.4 | 99.6 |
| | 21 | 1 | 0.3 | 97.5 | 0 | 0.0 | 99.6 |
| | 22 | 2 | 0.6 | 98.0 | 0 | 0.0 | 99.6 |
| | 23 | 2 | 0.6 | 98.6 | 0 | 0.0 | 99.6 |
| | 24 | 2 | 0.6 | 99.2 | 0 | 0.0 | 99.6 |
| | 25 | 0 | 0.0 | 99.2 | 0 | 0.0 | 99.6 |
| | 26 | 0 | 0.0 | 99.2 | 1 | 0.4 | 100.0 |
| | 27 | 0 | 0.0 | 99.2 | - | - | - |
| | 28 | 2 | 0.6 | 99.7 | - | - | - |
| | 29 | 0 | 0.0 | 99.7 | - | - | - |
| | 30 | 1 | 0.3 | 100.0 | - | - | - |
| | 31 | - | - | - | - | - | - |

Table C.8. Frequency of Total Scores for Standard 1 Pupils by Group and Gender: Chichewa, 2007

F= Frequency; P = Percentage; CP = Cumulative Percentage

| Level | Raw Score | Intervention | | | | | | Comparison | | | | | |
|----------|-----------|--------------|------|-------|-------|------|-------|------------|------|-------|-------|------|-------|
| | | Boys | | | Girls | | | Boys | | | Girls | | |
| | | F | P | CP | F | P | CP | F | P | CP | F | P | CP |
| Minimal | 0 | 1 | 0.6 | 0.6 | - | - | - | 1 | 0.8 | 0.8 | - | - | - |
| | 1 | 0 | 0.0 | 0.6 | - | - | - | 1 | 0.8 | 1.6 | - | - | - |
| | 2 | 1 | 0.6 | 1.1 | 3 | 1.7 | 1.7 | 4 | 3.3 | 4.9 | 6 | 5.1 | 5.1 |
| | 3 | 1 | 0.6 | 1.7 | 2 | 1.1 | 2.8 | 8 | 6.6 | 11.5 | 9 | 7.6 | 12.7 |
| | 4 | 5 | 2.8 | 4.5 | 4 | 2.2 | 5.1 | 11 | 9.0 | 20.5 | 9 | 7.6 | 20.3 |
| | 5 | 7 | 4.0 | 8.5 | 7 | 3.9 | 9.0 | 5 | 4.1 | 24.6 | 14 | 11.9 | 32.2 |
| | 6 | 7 | 4.0 | 12.5 | 11 | 6.2 | 15.2 | 13 | 10.7 | 35.2 | 10 | 8.5 | 40.7 |
| | 7 | 11 | 6.3 | 18.8 | 12 | 6.7 | 21.9 | 19 | 15.6 | 50.8 | 16 | 13.6 | 54.2 |
| | 8 | 19 | 10.8 | 29.5 | 13 | 7.3 | 29.2 | 14 | 11.5 | 62.3 | 16 | 13.6 | 67.8 |
| | 9 | 17 | 9.7 | 39.2 | 19 | 10.7 | 39.9 | 13 | 10.7 | 73.0 | 12 | 10.2 | 78.0 |
| | 10 | 20 | 11.4 | 50.6 | 13 | 7.3 | 47.2 | 10 | 8.2 | 81.1 | 10 | 8.5 | 86.4 |
| 11 | 15 | 8.5 | 59.1 | 10 | 5.6 | 52.8 | 9 | 7.4 | 88.5 | 7 | 5.9 | 92.4 | |
| Passing | 12 | 14 | 8.0 | 67.0 | 23 | 12.9 | 65.7 | 3 | 2.5 | 91.0 | 5 | 4.2 | 96.6 |
| | 13 | 15 | 8.5 | 75.6 | 17 | 9.6 | 75.3 | 1 | 0.8 | 91.8 | 3 | 2.5 | 99.2 |
| | 14 | 3 | 1.7 | 77.3 | 9 | 5.1 | 80.3 | 6 | 4.9 | 96.7 | 0 | 0.0 | 99.2 |
| | 15 | 11 | 6.3 | 83.5 | 9 | 5.1 | 85.4 | 1 | 0.8 | 97.5 | 0 | 0.0 | 99.2 |
| | 16 | 10 | 5.7 | 89.2 | 8 | 4.5 | 89.9 | 1 | 0.8 | 98.4 | 0 | 0.0 | 99.2 |
| | 17 | 5 | 2.8 | 92.0 | 5 | 2.8 | 92.7 | 0 | 0.0 | 98.4 | 0 | 0.0 | 99.2 |
| Advanced | 18 | 3 | 1.7 | 93.8 | 5 | 2.8 | 95.5 | 0 | 0.0 | 98.4 | 0 | 0.0 | 99.2 |
| | 19 | 5 | 2.8 | 96.6 | 1 | 0.6 | 96.1 | 1 | 0.8 | 99.2 | 0 | 0.0 | 99.2 |
| | 20 | 1 | 0.6 | 97.2 | 2 | 1.1 | 97.2 | 1 | 0.8 | 100.0 | 0 | 0.0 | 99.2 |
| | 21 | 0 | 0.0 | 97.2 | 1 | 0.6 | 97.8 | - | - | - | 0 | 0.0 | 99.2 |
| | 22 | 0 | 0.0 | 97.2 | 2 | 1.1 | 98.9 | - | - | - | 0 | 0.0 | 99.2 |
| | 23 | 2 | 1.1 | 98.3 | 0 | 0.0 | 98.9 | - | - | - | 0 | 0.0 | 99.2 |
| | 24 | 1 | 0.6 | 98.9 | 1 | 0.6 | 99.4 | - | - | - | 0 | 0.0 | 99.2 |
| | 25 | 0 | 0.0 | 98.9 | 0 | 0.0 | 99.4 | - | - | - | 0 | 0.0 | 99.2 |
| | 26 | 0 | 0.0 | 98.9 | 0 | 0.0 | 99.4 | - | - | - | 1 | 0.8 | 100.0 |
| | 27 | 0 | 0.0 | 98.9 | 0 | 0.0 | 99.4 | - | - | - | - | - | - |
| | 28 | 1 | 0.6 | 99.4 | 1 | 0.6 | 100.0 | - | - | - | - | - | - |
| | 29 | 0 | 0.0 | 99.4 | - | - | - | - | - | - | - | - | - |
| | 30 | 1 | 0.6 | 100.0 | - | - | - | - | - | - | - | - | - |
| | 31 | - | - | - | - | - | - | - | - | - | - | - | - |

Table C.9. Frequency of Total Scores for Standard 1 Pupils by Group and OVC Status: Chichewa, 2007

F= Frequency; P = Percentage; CP = Cumulative Percentage

| Level | Raw Score | Intervention | | | | | | Comparison | | | | | |
|----------|-----------|--------------|------|-------|---------|------|-------|------------|------|-------|---------|------|-------|
| | | OVC | | | Non-OVC | | | OVC | | | Non-OVC | | |
| | | F | P | CP | F | P | CP | F | P | CP | F | P | CP |
| Minimal | 0 | - | - | - | 1 | 0.3 | 0.3 | - | - | - | 1 | 0.5 | 0.5 |
| | 1 | - | - | - | 0 | 0.0 | 0.3 | 1 | 2.3 | 2.3 | 0 | 0.0 | 0.5 |
| | 2 | 1 | 1.8 | 1.8 | 3 | 1.0 | 1.3 | 2 | 4.7 | 7.0 | 8 | 4.1 | 4.6 |
| | 3 | 0 | 0.0 | 1.8 | 3 | 1.0 | 2.4 | 3 | 7.0 | 14.0 | 14 | 7.1 | 11.7 |
| | 4 | 1 | 1.8 | 3.5 | 8 | 2.7 | 5.1 | 3 | 7.0 | 20.9 | 17 | 8.6 | 20.3 |
| | 5 | 1 | 1.8 | 5.3 | 13 | 4.4 | 9.4 | 4 | 9.3 | 30.2 | 15 | 7.6 | 27.9 |
| | 6 | 3 | 5.3 | 10.5 | 15 | 5.1 | 14.5 | 4 | 9.3 | 39.5 | 19 | 9.6 | 37.6 |
| | 7 | 3 | 5.3 | 15.8 | 20 | 6.7 | 21.2 | 5 | 11.6 | 51.2 | 30 | 15.2 | 52.8 |
| | 8 | 1 | 1.8 | 17.5 | 31 | 10.4 | 31.6 | 4 | 9.3 | 60.5 | 26 | 13.2 | 66.0 |
| | 9 | 7 | 12.3 | 29.8 | 29 | 9.8 | 41.4 | 3 | 7.0 | 67.4 | 22 | 11.2 | 77.2 |
| | 10 | 6 | 10.5 | 40.4 | 27 | 9.1 | 50.5 | 6 | 14.0 | 81.4 | 14 | 7.1 | 84.3 |
| 11 | 5 | 8.8 | 49.1 | 20 | 6.7 | 57.2 | 3 | 7.0 | 88.4 | 13 | 6.6 | 90.9 | |
| Passing | 12 | 6 | 10.5 | 59.6 | 31 | 10.4 | 67.7 | 2 | 4.7 | 93.0 | 6 | 3.0 | 93.9 |
| | 13 | 8 | 14.0 | 73.7 | 24 | 8.1 | 75.8 | 0 | 0.0 | 93.0 | 4 | 2.0 | 95.9 |
| | 14 | 3 | 5.3 | 78.9 | 9 | 3.0 | 78.8 | 3 | 7.0 | 100.0 | 3 | 1.5 | 97.5 |
| | 15 | 5 | 8.8 | 87.7 | 15 | 5.1 | 83.8 | - | - | - | 1 | 0.5 | 98.0 |
| | 16 | 4 | 7.0 | 94.7 | 14 | 4.7 | 88.6 | - | - | - | 1 | 0.5 | 98.5 |
| | 17 | 0 | 0.0 | 94.7 | 10 | 3.4 | 91.9 | - | - | - | 0 | 0.0 | 98.5 |
| Advanced | 18 | 1 | 1.8 | 96.5 | 7 | 2.4 | 94.3 | - | - | - | 0 | 0.0 | 98.5 |
| | 19 | 1 | 1.8 | 98.2 | 5 | 1.7 | 96.0 | - | - | - | 1 | 0.5 | 99.0 |
| | 20 | 0 | 0.0 | 98.2 | 3 | 1.0 | 97.0 | - | - | - | 1 | 0.5 | 99.5 |
| | 21 | 0 | 0.0 | 98.2 | 1 | 0.3 | 97.3 | - | - | - | 0 | 0.0 | 99.5 |
| | 22 | 0 | 0.0 | 98.2 | 2 | 0.7 | 98.0 | - | - | - | 0 | 0.0 | 99.5 |
| | 23 | 0 | 0.0 | 98.2 | 2 | 0.7 | 98.7 | - | - | - | 0 | 0.0 | 99.5 |
| | 24 | 0 | 0.0 | 98.2 | 2 | 0.7 | 99.3 | - | - | - | 0 | 0.0 | 99.5 |
| | 25 | 0 | 0.0 | 98.2 | 0 | 0.0 | 99.3 | - | - | - | 0 | 0.0 | 99.5 |
| | 26 | 0 | 0.0 | 98.2 | 0 | 0.0 | 99.3 | - | - | - | 1 | 0.5 | 100.0 |
| | 27 | 0 | 0.0 | 98.2 | 0 | 0.0 | 99.3 | - | - | - | - | - | - |
| | 28 | 0 | 0.0 | 98.2 | 2 | 0.7 | 100.0 | - | - | - | - | - | - |
| | 29 | 0 | 0.0 | 98.2 | - | - | - | - | - | - | - | - | - |
| | 30 | 1 | 1.8 | 100.0 | - | - | - | - | - | - | - | - | - |
| | 31 | - | - | - | - | - | - | - | - | - | - | - | - |