Renorming five tasks of the Observation Survey for New Zealand

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Introduction

The New Zealand Council for Educational Research (NZCER) was contracted by The Marie Clay Literacy Trust (MCLT) to update the New Zealand norms for five tasks in *An Observation Survey of Early Literacy Achievement* (Concepts About Print; Letter Identification; Word Reading, Writing Vocabulary, and Hearing and Recording Sounds in Words Revised version, 2018), as well as the Burt Word Reading Test. It is common practice to use this assessment alongside the Observation Survey tasks in schools. The New Zealand norms for the five tasks of the Observation Survey and Burt Word Reading are described for students in four age groups: 5:0:0-5:6:0, 5:6:1-6:0:0, 6:0:1-6:6:0, and 6:6:1-7:0:0. (The age groups are the same as those used in the 2013 edition of *An Observation Survey of Early Literacy Achievement* but a different notation is used to specify the groups. Throughout this report the notation 'X:Y:Z' means 'X years, Y months and Z days old.')

The Observation Survey is used widely in NZ schools to assess progress in early literacy learning, and also to identify children who need additional help to make appropriate progress with reading and writing after one year at school. The most recent Observation Survey norming study was carried out in 2000. The updated norms will provide reference information for classroom teachers, administrators, and Reading Recovery Trainers, Tutors and teachers, that is up-to-date and relevant to the students who are administered the Observation Survey.

In addition to updating the Observation Survey norms for the current age-groupings, NZCER was contracted to produce achievement information for two specific age groups of students:

1. Students that are in their first three weeks of schooling.
2. Students within a month either side of their sixth birthday at the time of assessment.

These students were oversampled in order to obtain enough data for robust summary statistics. The data from these students, weighted down to compensate for their oversampling, contributes to the current report where the students are considered as members of the four age groups: 5:0:0-5:6:0, 5:6:1-6:0:0, 6:0:1-6:6:0, and 6:6:1-7:0:0.

The data from these students also contributes to the report *Norms for tasks of the Observation Survey for New Zealand students in two age groups* where summary statistics for the reading achievement of these students is described.

Methodology

Sampling and participation

The target population for this renorming study was all students in New Zealand from age five to seven excluding the following groups.

1. Students receiving literacy instruction exclusively in Māori medium at the time of selection.
2. Students who are in Special Education according to the Special Education Ongoing Resourcing Scheme.
3. Students who have 'Minimal English' as determined by The Application for ESOL funding rating for Listening and/or Speaking. These students would be unable to understand the simple instructions of the Observation Survey tasks.

Within this broad population there were four subpopulations of interest:

1. students aged between 5:0:0 and 5:6:0
2. students aged between 5:6:1 and 6:0:0
3. students aged between 6:0:1 and 6:6:0
4. students aged between 6:6:1 and 7:0:0

In addition to these groups, two specific age groups of students were oversampled:

1. Students that are in their first three weeks of schooling.
2. Students within a month either side of their sixth birthday at the time of assessment.

Because of the practicalities of sampling and the data collection process, the precise definition of a student being in their first three weeks of schooling is that data was collected from them in their first four weeks at school and that they were aged less than 5:4:0 at this time. For similar reasons, the precise definition of a student being within a month either side of their 6th birthday is that their birthday was between 1 May 2012 and 30 June 2012. The data from these students contributes to the current report (weighted down to compensate for their oversampling) where the students are considered as members of the four age groups: 5:0:0-5:6:0, 5:6:1-6:0:0, 6:0:1-6:6:0, and 6:6:1-7:0:0. The data from these students also contributes to the report *Norms for the Observation Survey and Burt Reading Test for New Zealand students in two age groups*.

Sampling was carried out in two stages. First, schools were sampled. Then, once selected schools had agreed to participate in the study, students within each school were sampled. Nationally representative samples of each subpopulation were achieved by using a variety of sampling rates within school for different sub-populations of students.

The sampling frame

The sampling frame was all NZ schools with more than 20 students in each of Years 1 to 3. Schools that exclusively offer Māori medium education were excluded from the sample frame as were special schools and the correspondence school.

Sampling schools

In New Zealand, a school's *decile* is a number between 1 and 10 expressing the socio-economic status of the school's student community. Decile 1 schools are the 10% of schools with the highest proportion of students from low socio-economic backgrounds, whereas decile 10 schools are the 10% of schools with the lowest proportion of students from low socio-economic backgrounds.

High decile schools tend to have larger rolls. To account for this, the sample of schools was stratified by school quintile. Quintile 1 schools are those with decile 1 or 2, quintile 2 schools are those with decile 3 or 4, and so on. Schools were sampled using a 'probability-proportional to size' sampling method (as was used in the previous renorming research in 2000). In particular, the probability of inclusion of a school into the sample was proportional to the number of students at the school in Years 1 to 3 according to Ministry of Education administrative data.

To ensure that summary statistics about each of the subpopulations of interest were accurate enough, 160 schools were included in the school sample. Associated with each school in the sample were two replacement schools with similar characteristics (should the school and it's first replacement decline to participate).

Sampling students

Each school provided a list of all students in the target population. Selections were made from this list based on the birthdays of the selected students.

First, two students in their first three weeks of schooling at the time of sampling were randomly selected for participation. If there was only one student in this age group at the school, then that student was selected. Following this, two students within a month either side of their 6th birthday were randomly selected for participation. Again, if there was only one student in this age group at the school, then that student was selected. Finally, ten students aged between 5:0:0 and 7:0:0 who were neither in their first three weeks of schooling nor were within a month of their 6th birthday were randomly selected for participation.

Selected students were replaced if:

- they were absent on the day of assessment
- they declined to participate on the day of assessment
- they did not wish to continue the assessment after starting.

Students in their first three weeks of schooling were replaced with randomly selected students in the same age group as required. Similarly, students within a month of their 6th birthday were replaced with randomly selected students in the same age group. All other students were replaced with randomly selected students.

The achieved sample

This section describes the achieved sample – that is, the schools and students that contributed data. Data provided by this sample of students was used to estimate the stanines and other statistics in this report.

The achieved sample was made up of 2089 students from a total of 160 schools. Sampled schools were broadly representative of the sample frame according to school decile (see Table 1). The achieved sample was approximately evenly split between boys and girls in each of the age groups of interest (see Table 2). It was broadly representative of the sample frame according to ethnic group (see Table 3) and was likewise broadly representative of the sample frame according to quintile for each age group of interest (see Table 4 through Table 7). Note that percentages in these tables may not add to 100% due to rounding error.

Table 1 **Schools in the achieved sample by school decile**

Decile	Schools in sample (n)	Schools in sample (%)	Schools in frame (%)
1	14	8.8	9.8
2	16	10	8.5
3	15	9.4	9.4
4	15	9.4	9.1
5	15	9.4	9.5
6	13	8.1	8.2
7	16	10	9.9
8	16	10	10.2
9	18	11.2	11.1
10	22	13.8	14.1

Table 2 **Students in the achieved sample by student gender and age group**

Gender	Ages 5:0:0 – 5:6:0	Ages 5:6:1– 6:0:0	Ages 6:0:1 – 6:6:0	Ages 6:6:1 – 7:0:0	Total
Boy	260	296	243	247	1046
Girl	247	283	262	251	1043
Total	**507**	**579**	**505**	**498**	**2089**

There were 199 students in their first three weeks of schooling and 321 students within a month either side of their sixth birthday included in the sample. These numbers reflect the oversampling method that was used.

Table 3 **Students in the achieved sample by student ethnic group and gender**

Ethnic group	Boys (n)	Girls (n)	Total
Māori	245	251	**496**
Pākehā	572	528	**1100**
Asian	137	159	**296**
Pasifika	118	130	**248**
Other	91	98	**189**

Students could identify with more than one of the ethnic groups summarised in Table 3. The columns in this table will therefore not sum to give the numbers of boys and girls in the sample of five to seven-year-olds. The results are broadly representative of New Zealand's population.

Table 4 **Students in the achieved sample aged 5:0:0 – 5:6:0 by school quintile**

Quintile	Sample (n)	Sample (%)	Sample frame Year 1 (%)	Sample frame Year 2 (%)
1	85	16.8	17.5	17.2
2	111	21.9	16.8	17
3	87	17.2	16.3	16.2
4	110	21.7	21.1	21.2
5	114	22.5	28.2	28.5

Table 5 **Students in the achieved sample aged 5:6:1 – 6:0:0 by school quintile**

Quintile	Sample (n)	Sample (%)	Sample frame Year 1 (%)	Sample frame Year 2 (%)
1	99	17.1	17.5	17.2
2	105	18.1	16.8	17
3	100	17.3	16.3	16.2
4	127	21.9	21.1	21.2
5	148	25.6	28.2	28.5

Table 6 **Students in the achieved sample aged 6:0:1 – 6:6:0 by school quintile**

Quintile	Sample (n)	Sample (%)	Sample frame Year 1 (%)	Sample frame Year 2 (%)
1	94	18.6	17.5	17.2
2	86	17	16.8	17
3	93	18.4	16.3	16.2
4	88	17.4	21.1	21.2
5	144	28.5	28.2	28.5

Table 7 **Students in the achieved sample aged 6:6:1 – 7:0:0 by school quintile**

Quintile	Sample (n)	Sample (%)	Sample frame Year 1 (%)	Sample frame Year 2 (%)
1	104	20.9	17.5	17.2
2	91	18.3	16.8	17
3	80	16.1	16.3	16.2
4	101	20.3	21.1	21.2
5	122	24.5	28.2	28.5

Table 4, Table 5, Table 6, and 0 show that overall, the sample slightly over-represented students in Quintile 2 schools and slightly under-represented students in Quintile 5 schools.

Other methodological details

This section describes calculation of weights used in the analysis and the data quality assurance processes that were used.

Calculating weights for the analysis of the four main age groups

Students were sampled from their schools at different rates. If students were either their first three weeks of school or were within a month either side of their sixth birthday, they were sampled at a higher rate than students of any other age.

Sampling students in these special groups at a higher rate than other students means there is a higher proportion of these students in the sample than there otherwise would be. Therefore, to produce stanines and other statistics for the four main age groups, the Observation Survey results of these students was weighted down in our analyses so that the results of students in these age groups did not have an undue effect on the results overall.

Table 8 illustrates the effects of weighting the data on the mean score for the Letter Identification task. Because, for example, students in their first three weeks of schooling are over-represented among the students aged 5:0:0 – 5:6:0, we expect the unweighted mean for that group to be lower than the weighted mean. Table 8 confirms this expectation.

Table 8 **An example of the effect of weighting the data**

	Unweighted mean Letter Identification score	Weighted mean Letter Identification score
Age 5:0:0-5:6:0	31.3	34.7
Age 5:6:1-6:0:0	45.7	45.2
Age 6:0:1-6:6:0	49.1	49.3
Age 6:6:1-7:0:0	51.6	51.6

The calculation of these weights began by assuming – for simplicity – that the distribution of age is uniform, i.e. that no student birthdays are more common than any others.

Ministry of Education administrative data was used to determine that there were 18,316 students in Years 1 and 2 of the 160 sampled schools. This number of students was used as an estimate for the number of students aged between five and seven in the sampled schools.

The age range of students in this study is two years, and the students within a month either side of their sixth birthday are defined by a two-month period. The total number of students in the sampled schools that were within two months of their sixth birthday was therefore estimated by $\frac{2}{24} \times 18{,}316 = 1{,}526$.

The students in their first three weeks of schooling are defined by a three-week period. The total number of students in the sampled schools that were within three weeks of starting school was similarly estimated by $\frac{21}{365 \times 2} \times 18{,}316 = 527$.

The total number of students in the sampled schools that were neither within three weeks of starting school nor within a month of their sixth birthday was therefore estimated to be $18{,}316 - 1{,}526 - 527 = 16{,}263$. A total of 10 of these students were sampled at each of 160 schools in the sample giving an estimated sampling probability of approximately $\frac{10 \times 160}{16{,}263} = 0.0984$.

The weight for each special group is the ratio of the number of students we would have sampled in these groups (if all students had the same chance of being selected) to the number of students that were selected in these groups.

The number of sampled students within three weeks of starting school was 199. The weight for these students is therefore approximately $\frac{0.0983 \times 527}{199} = 0.26$.

The number of sampled students within a month either side of their sixth birthday was 321. The weight for these students is therefore approximately $\frac{0.0983 \times 1{,}526}{321} = 0.47$.

Administration of the Observation Survey and data quality assurance

The data for this research was collected by experienced literacy educators with high levels of expertise in administering the assessments used. The research assistants administered and scored the observation tasks following the directions in *An Observation of Early Literacy Achievement 3rd edition* (2013), along with the instructions for the revised Hearing and Recording the Sounds in Words (Revised) task, and for the Burt Word Reading test. To secure standardization of the procedures each research assistant completed a carefully designed quality assurance retraining. This involved studying the reference material and two on-line video demonstrations of administrating the Survey, rehearsing with students in schools, viewing colleagues and discussing refinements to delivery.

Records of reading continuous text were administered to a sub-group of students within a month either side of their 6th birthday with the purpose of identifying the Instructional Text Level (that is the highest text able to be read at 90% accuracy or above) for each student (Clay, 2013). The Ready to Read series of levelled texts (Ministry of Education) was used for the Running Records task. Detailed written instructions were provided to ensure research assistants followed a consistent procedure for identifying the Instructional Text Level using these texts. (The highest text able to be read at 90% accuracy or above.) Student details including gender, ethnic group, and age were recorded, together with the assessment date.

Recorded data was reviewed centrally and Research Assistants were asked to resubmit any questionable data where, for example, student task scores were outside the range of possible scores, or date information was improbable given the parameters of the study.

Achievement stanines for five tasks of the Observation Survey and Burt Word Reading

This section provides achievement stanines and summary statistics for five Observation Survey tasks and for the Burt Word Reading test. It does this separately for each of: students aged between 5:0:0 and 5:6:0; students aged between 5:6:1 and 6:0:0; students aged between 6:0:1 and 6:6:0; students aged between 6:6:1 and 7:0:0.

Note that there is no maximum score for the Writing Vocabulary task, but 127 is the highest score recorded in this data collection. This value is used to describe the score range for Writing Vocabulary in the relevant tables below.

Achievement stanines for five Observation Survey tasks and Burt Word Reading for students aged between 5:0:0 and 5:6:0

Table 9 **Letter Identification: stanines for students aged 5:0:0 – 5:6:0**

Score	0 - 3	4 - 9	10 - 17	18 - 34	35 - 45	46 - 51	52	53	54
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 507; Range: 0 – 54; Median = 39.7; Mean = 34.7; SE = 0.80; SD = 16.8)

Table 10 **Concepts About Print: stanines for students aged 5:0:0 – 5:6:0**

Score	0 - 5	6 - 7	8 - 10	11 - 12	13	14 - 15	16 - 17	18 - 19	20 -24
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 507; Range: 0 – 24; Median = 12; Mean = 12.2; SE = 0.19; SD = 3.9)

Table 11 **Clay Word Reading: stanines for students aged 5:0:0 – 5:6:0**

Score	0	0	0	1	2 - 3	4 - 5	6 - 8	9 - 12	13 - 15
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 507; Range: 0 – 15; Median = 2; Mean = 3.2; SE = 0.18; SD = 3.6)

Table 12 **Writing Vocabulary: stanines for students aged 5:0:0 – 5:6:0**

Score	0 - 0	1 - 1	2 - 2	3 - 4	5 - 8	9 - 14	15 - 19	20 - 26	27+
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 507; Range: 0 – 127; Median = 6; Mean = 8.4; SE = 0.40; SD = 7.9)

Table 13 **Hearing and Recording Sounds in Words (Revised): stanines for students aged 5:0:0 – 5:6:0**

Score	0	0	1 - 3	4 - 7	8 - 15	16 - 24	25 - 33	34 - 39	40 - 50
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 507; Range: 0 – 50; Median = 11; Mean = 14.1; SE = 0.61; SD = 12.3)

Table 14 **Burt Word Reading: stanines for students aged 5:0:0 – 5:6:0**

Score	0	0	1	2	3 - 4	5 - 7	8 - 11	12 - 18	19+
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 507; Range: 0 – 97; Median = 3; Mean = 4.7; SE = 0.32; SD = 6.3)

Achievement stanines for five Observation Survey tasks and Burt Word Reading for students aged between 5:6:1 and 6:0:0

Table 15 **Letter Identification: stanines for students aged 5:6:1 – 6:0:0**

Score	0 - 12	13 - 28	29 - 42	43 - 49	50 - 52	53	54	54	54
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 579; Range: 0 – 54; Median = 50; Mean = 45.2; SE = 0.53; SD = 11.9)

Table 16 **Concepts About Print: stanines for students aged 5:6:1 – 6:0:0**

Score	0 - 8	9 - 11	12 - 12	13 - 14	15 - 16	17 - 18	19 - 20	21	22 - 24
Stanine Group	1	2	3	4	5	6	7	8	9

(N= 579; Range: 0 – 24; Median = 15; Mean = 15.2; SE = 0.16; SD = 3.7)

Table 17 **Clay Word Reading: stanines for students aged 5:6:1 – 6:0:0**

Score	0	1	2 - 3	4 - 6	7 - 10	11 - 13	14	15	15
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 579; Range: 0 – 15; Median = 8; Mean = 7.8; SE = 0.21; SD = 4.9)

Table 18 **Writing Vocabulary: stanines for students aged 5:6:1 – 6:0:0**

Score	0 - 2	3 - 4	5 - 8	9 - 14	15 - 23	24 - 34	35 - 44	45 - 52	53+
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 579; Range: 0 – 127; Median = 18; Mean = 21.5; SE = 0.68; SD = 15.8)

Table 19 **Hearing and Recording Sounds in words (Revised): stanines for students aged 5:6:1 – 6:0:0**

Score	0 - 2	3 - 6	7 - 14	15 - 24	25 - 34	35 - 39	40 - 43	44 - 46	47 - 50
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 579; Range: 0 – 50; Median = 29; Mean = 26.9; SE = 0.60; SD = 13.8)

Table 20 **Burt Word Reading: stanines for students aged 5:6:1 – 6:0:0**

Score	0 - 1	2	3 - 4	5 - 8	9 - 13	14 - 21	22 - 27	28 - 33	34+
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 579; Range: 0 – 97; Median = 11; Mean = 13.0; SE = 0.44; SD = 10.3)

Achievement stanines for five Observation Survey tasks and Burt Word Reading for students aged between 6:0:1 and 6:6:0

Table 21 **Letter Identification: stanines for students aged 6:0:1 – 6:6:0**

Score	0 - 24	25 - 42	43 - 49	50 - 52	53	54	54	54	54
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 505; Range: 0 – 54; Median = 52; Mean = 49.3; SE = 0.38; SD = 8.5)

Table 22 **Concepts About Print: stanines for students aged 6:0:1 – 6:6:0**

Score	0 - 10	11 - 13	14 - 15	16 - 17	18	19 - 20	21 - 22	23	24
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 505; Range: 0 – 24; Median = 17; Mean = 17.2; SE = 0.17; SD = 3.6)

Table 23 **Clay Word Reading: stanines for students aged 6:0:1 – 6:6:0**

Score	0 - 1	2 - 4	5 - 8	9 - 11	12 - 13	14	15	15	15
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 505; Range: 0 – 15; Median = 12.1; Mean = 10.8; SE = 0.20; SD = 4.4)

Table 24 **Writing Vocabulary: stanines for students aged 6:0:1 – 6:6:0**

Score	0 - 3	4 - 9	10 - 19	20 - 27	28 - 38	39 - 49	50 - 59	60 - 68	69+
Stanine Group	1	2	3	4	5	6	7	8	9

(N =505; Range: 0 – 127; Median = 33; Mean = 34.2; SE = 0.89; SD = 19.6)

Table 25 **Hearing and Recording Sounds in words (Revised): stanines for students aged 6:0:1 – 6:6:0**

Score	0 - 7	8 - 17	18 - 27	28 - 34	35 - 41	42 - 45	46 - 47	48 - 49	50
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 505; Range: 0 – 50; Median = 38; Mean = 34.9; SE = 0.56; SD = 12.2)

Table 26 **Burt Word Reading: stanines for students aged 6:0:1 – 6:6:0**

Score	0 - 1	2 - 6	7 - 10	11 - 18	19 - 25	26 - 31	32 - 41	42 - 48	49+
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 505; Range: 0 – 97; Median = 21; Mean = 22.2; SE = 0.65; SD = 14.0)

Achievement stanines for five Observation Survey tasks and Burt Word Reading for students aged between 6:6:1 and 7:0:0

Table 27 **Letter Identification: stanines for students aged 6:6:1 – 7:0:0**

Score	0 - 43	44 - 49	50 - 51	52	53	54	54	54	54
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 498; Range: 0 – 54; Median = 53; Mean = 51.6; SE = 0.19; SD = 4.3)

Table 28 **Concepts About Print: stanines for students aged 6:6:1 – 7:0:0**

Score	0 - 12	13 - 14	15 - 16	17 - 18	19 - 20	21	22 - 23	24	24
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 498; Range: 0 – 24; Median = 19; Mean = 18.5; SE = 0.15; SD = 3.3)

Table 29 **Clay Word Reading: stanines for students aged 6:6:1 – 7:0:0**

Score	0 - 3	4 - 8	9 - 12	13 - 14	15	15	15	15	15
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 498; Range: 0 – 15; Median = 14; Mean = 12.7; SE = 0.15; SD = 3.3)

Table 30 **Writing Vocabulary: stanines for students aged 6:6:1 – 7:0:0**

Score	0 - 10	11 - 17	18 - 30	31 - 38	39 - 48	49 - 59	60 - 72	73 - 82	83+
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 498; Range: 0 – 127; Median = 43; Mean = 44.5; SE = 0.93; SD = 20.7)

Table 31 **Hearing and Recording Sounds in words (Revised): stanines for students aged 6:6:1 – 7:0:0**

Score	0 - 16	17 - 27	28 - 34	35 - 40	41 - 44	45 - 47	48 - 49	50	50
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 498; Range: 0 – 50; Median = 42; Mean = 39.6; SE = 0.42; SD = 9.3)

Table 32 **Burt Word Reading: stanines for students aged 6:6:1 – 7:0:0**

Score	0 - 5	6 - 11	12 - 19	20 - 25	26 - 32	33 - 41	42 - 49	50 - 58	59+
Stanine Group	1	2	3	4	5	6	7	8	9

(N = 498; Range: 0 – 97; Median = 28; Mean: 29.9; SE = 0.69; SD = 15.3)

Concepts About Print: achievement and scoring

In addition to the total score for the Concepts About Print task, individual item responses were collected. Table 33 presents, for each Concepts About Print item, the youngest age group in which at least 50% of students correctly respond to the item. For example, less than half of students aged 5:0:0 – 5:6:0 responded correctly to Item 19, but at least half of students aged 5:6:1 – 6:0:0 responded correctly to the item (and at least half of students aged 6:0:1 – 6:60 and those aged 6:6:1 – 7: 0:0 responded correctly to the item).

Table 33 shows that students found Items 12, 13, 14, 17, and 18 the most difficult: in no age group did half of the students respond to these items correctly. Items 10, 20, 24, and 19 were the next most difficult followed by the remaining items.

Table 33 **Concepts About Print: age expectations for items**

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11	Item 12	Item 13	Item 14	Item 15	Item 16	Item 17	Item 18	Item 19	Item 20	Item 21	Item 22	Item 23	Item 24
Age 5:0:0-5:6:0	*	*	*	*	*	*	*	*	*		*				*	*					*	*	*	
Age 5:6:1-6:0:0																			*					
Age 6:0:1-6:6:0																				*				*
Age 6:6:1-7:0:0										*														

Further analysis of achievement in five Observation Survey tasks and Burt Word Reading

This section presents tables of correlations between five Observation Survey tasks and Burt Word Reading scores as well as achievement distributions for the five Observation Survey tasks and for the Burt Word Reading Test.

It presents both the tables of correlations for all students and separately for: students aged between 5:0:0 and 5:6:0; students aged between 5:6:1 and 6:0:0; students aged between 6:0:1 and 6:6:0; students aged between 6:6:1 and 7:0:0. Presumably 'all students' here means all students in the renorming (main) sample

It presents the achievement distributions separately for: students aged between 5:0:0 and 5:6:0; students aged between 5:6:1 and 6:0:0; students aged between 6:0:0 and 6:6:0; students aged between 6:6:1 and 7:0:0.

Correlations between Observation Survey tasks and Burt Word Reading

Table 34 **Correlations between Observation Survey tasks and Burt Word Reading scores for all students (N = 2089)**

	LI	CAP	CWR	WV	HRSW	BURT
LI	1	0.69	0.72	0.59	0.75	0.57
CAP		1	0.75	0.72	0.77	0.73
CWR			1	0.82	0.85	0.84
WV				1	0.82	0.86
HRSW					1	0.79
BURT						1

Table 35 **Correlations between Observation Survey tasks and Burt Word Reading scores for students aged 5:0:0 – 5:6:0**

	LI	CAP	CWR	WV	HRSW	BURT
LI	1	0.66	0.6	0.66	0.7	0.55
CAP		1	0.53	0.58	0.62	0.49
CWR			1	0.78	0.65	0.86
WV				1	0.82	0.74
HRSW					1	0.6
BURT						1

Table 36 **Correlations between Observation Survey tasks and Burt Word Reading scores for students aged 5:6:1 – 6:0:0**

	LI	CAP	CWR	WV	HRSW	BURT
LI	1	0.66	0.7	0.6	0.71	0.61
CAP		1	0.65	0.67	0.7	0.66
CWR			1	0.8	0.78	0.88
WV				1	0.79	0.83
HRSW					1	0.77
BURT						1

Table 37 **Correlations between Observation Survey tasks and Burt Word Reading scores for students aged 6:0:1 – 6:6:0**

	LI	CAP	CWR	WV	HRSW	BURT
LI	1	0.62	0.68	0.54	0.69	0.53
CAP		1	0.7	0.67	0.72	0.71
CWR			1	0.76	0.8	0.79
WV				1	0.78	0.83
HRSW					1	0.76
BURT						1

Table 38 **Correlations between Observation Survey tasks and Burt Word Reading scores for students aged 6:6:1 – 7:0:0**

	LI	CAP	CWR	WV	HRSW	BURT
LI	1	0.45	0.68	0.5	0.63	0.49
CAP		1	0.58	0.58	0.58	0.65
CWR			1	0.69	0.78	0.71
WV				1	0.72	0.73
HRSW					1	0.72
BURT						1

Achievement distributions for five Observation Survey tasks for students aged between 5:0:0 and 5:6:0

Figure 1 **Letter Identification: achievement distribution for students aged 5:0:0 – 5:6:0**

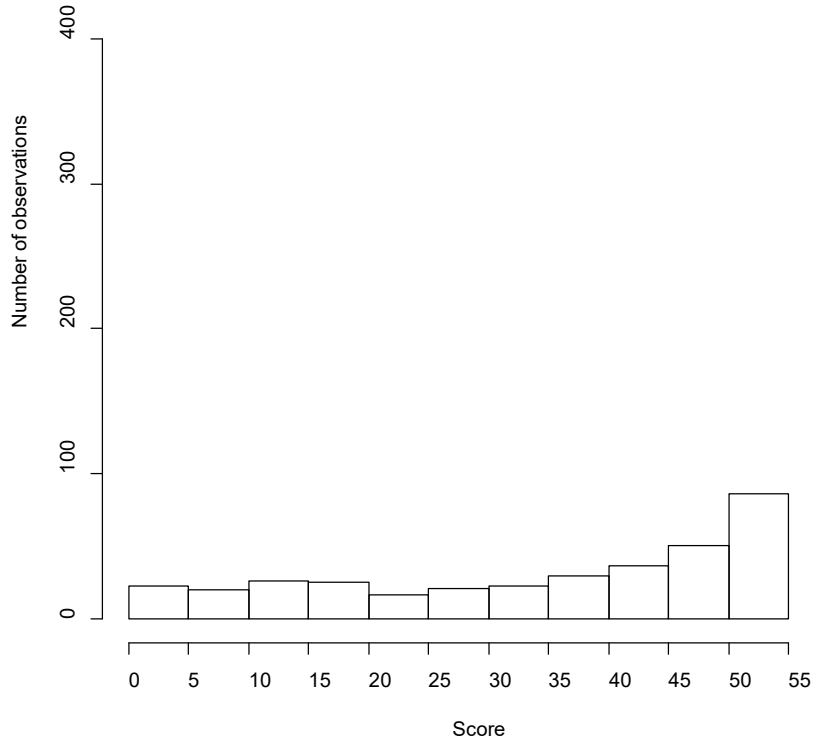


Figure 2 **Concepts About Print: achievement distribution for students aged 5:0:0 – 5:6:0**

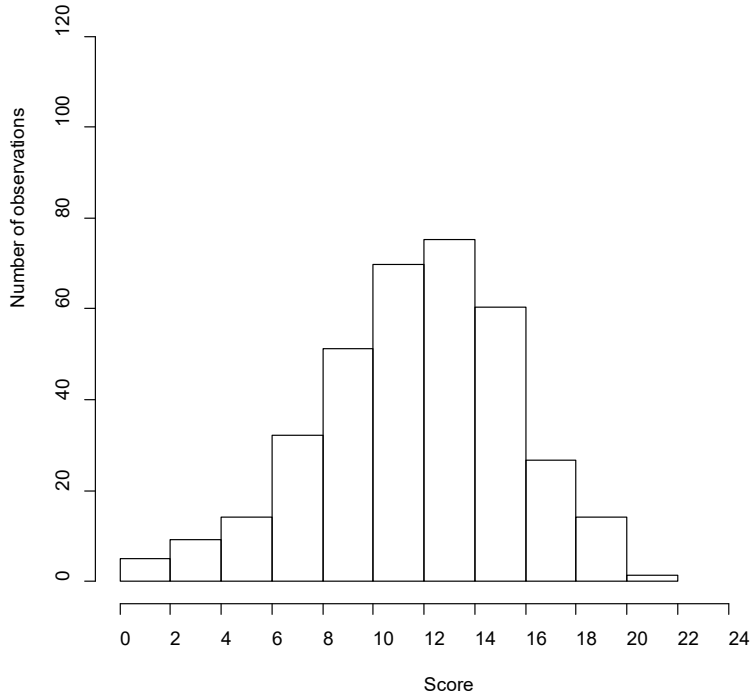


Figure 3 **Clay Word Reading: achievement distribution for students aged 5:0:0 – 5:6:0**

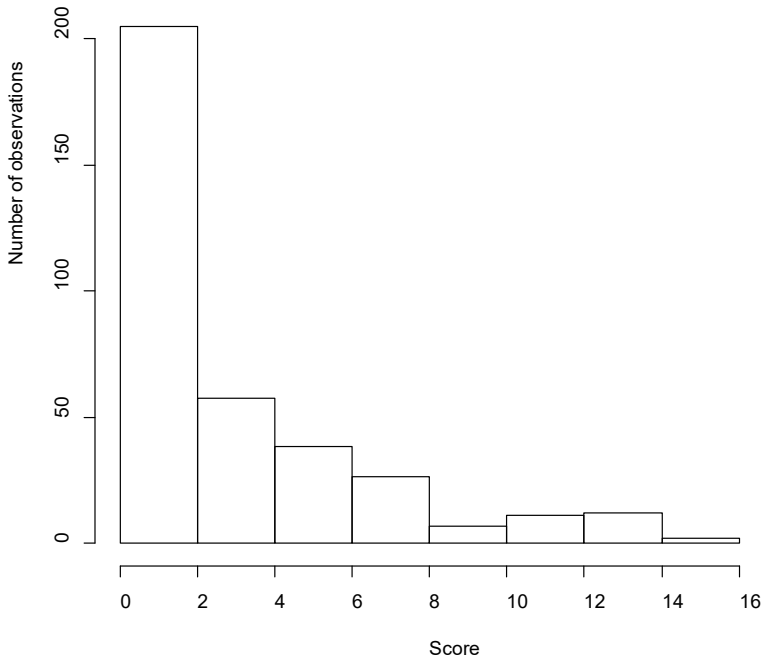


Figure 4 **Writing Vocabulary: achievement distribution for students aged 5:0:0 – 5:6:0**

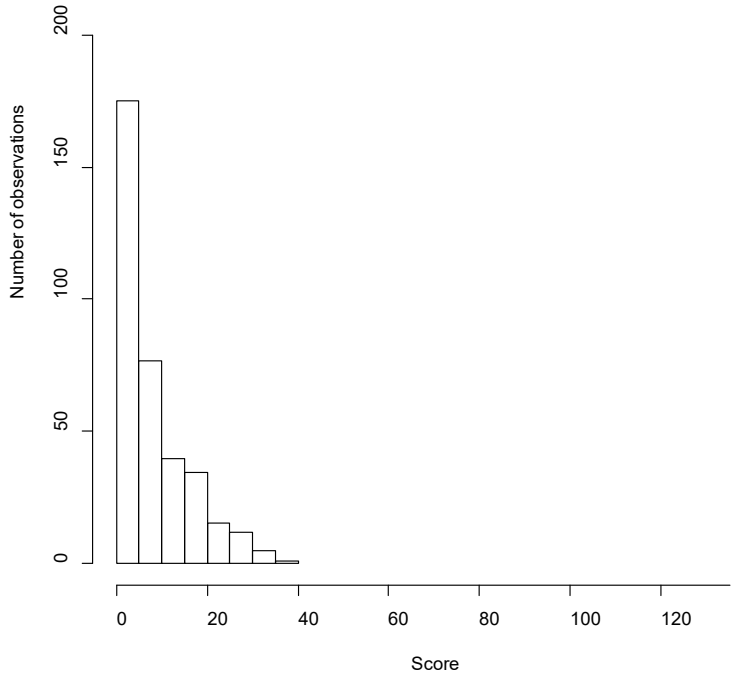
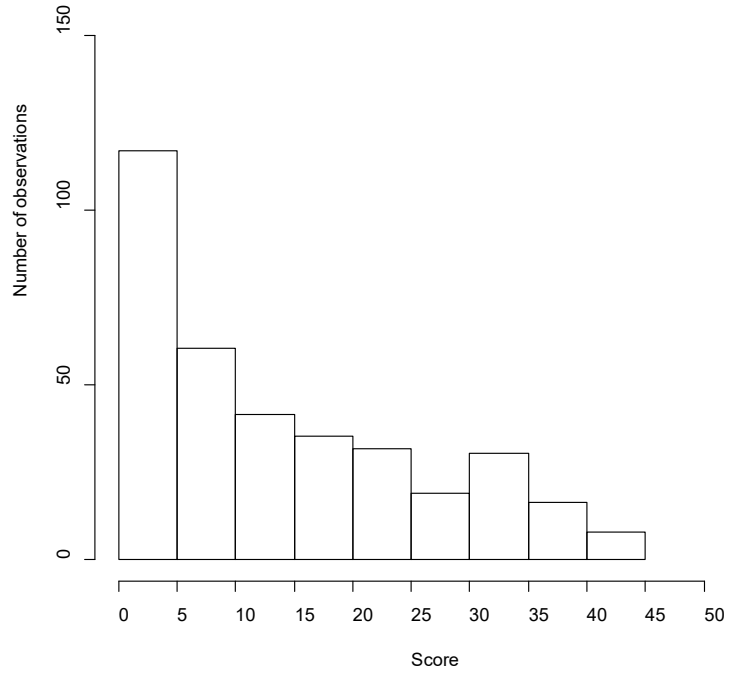


Figure 5 **Hearing and Recording Sounds in Words (Revised): achievement distribution for students aged 5:0:0 – 5:6:0**



Achievement distributions for five Observation Survey tasks for students aged between 5:6:1 and 6:0:0

Figure 6 **Letter Identification: achievement distribution for students aged 5:6:1 – 6:0:0**

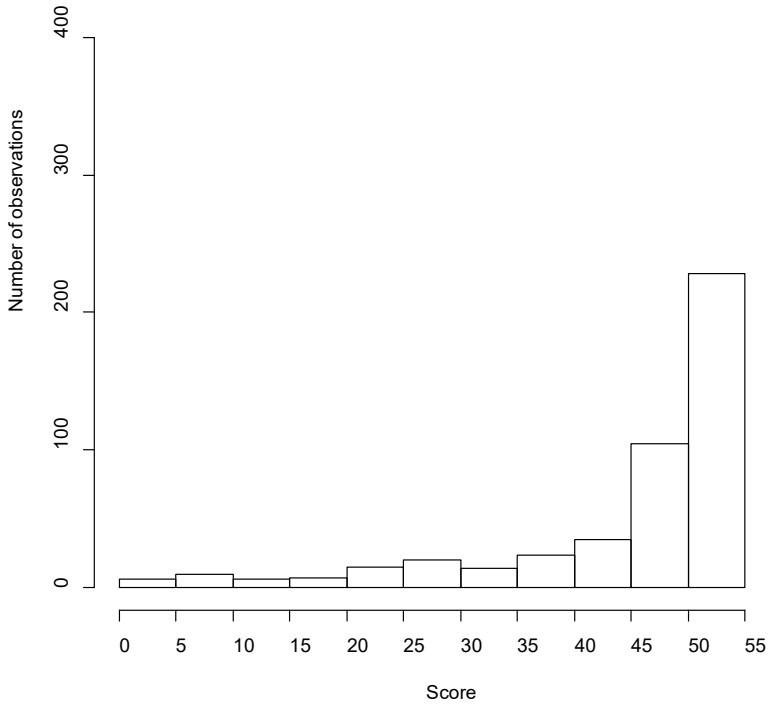


Figure 7 **Concepts About Print: achievement distribution for students aged 5:6:1 – 6:0:0**

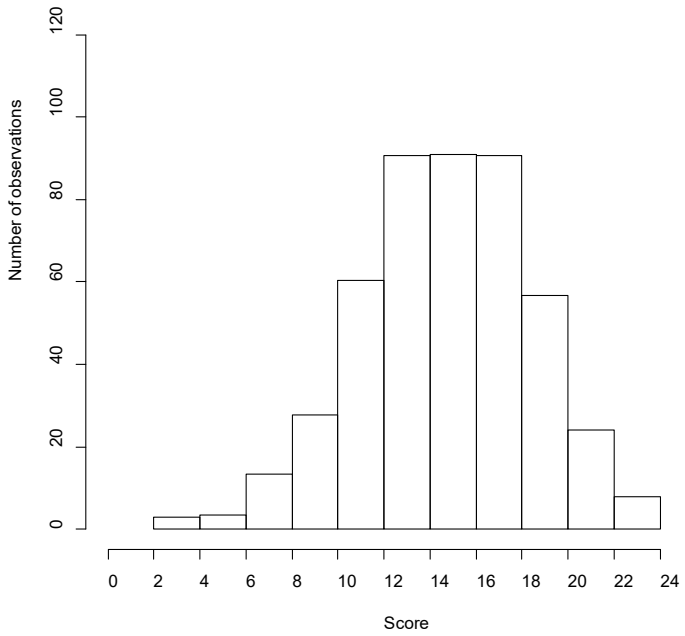


Figure 8 **Clay Word Reading: achievement distribution for students aged 5:6:1 – 6:0:0**

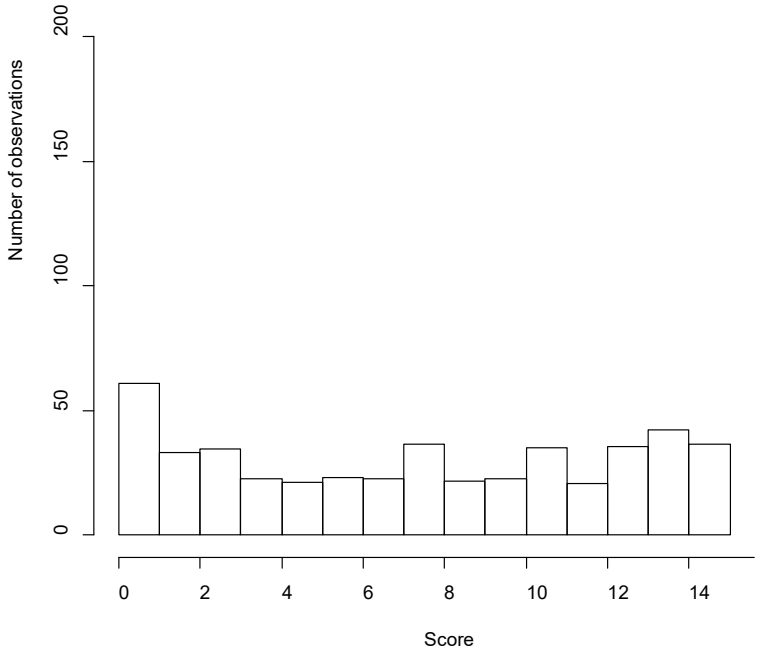


Figure 9 **Writing Vocabulary: achievement distribution for students aged 5:6:1 – 6:0:0**

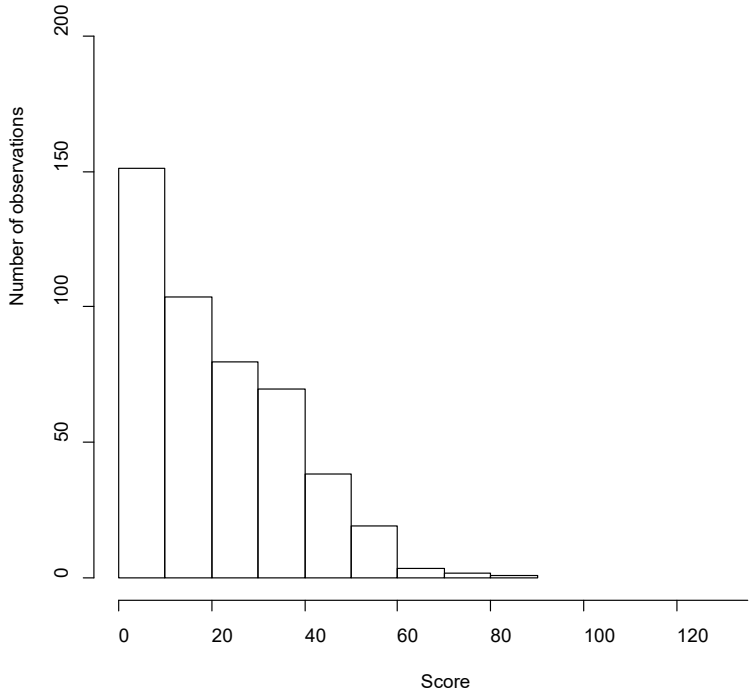
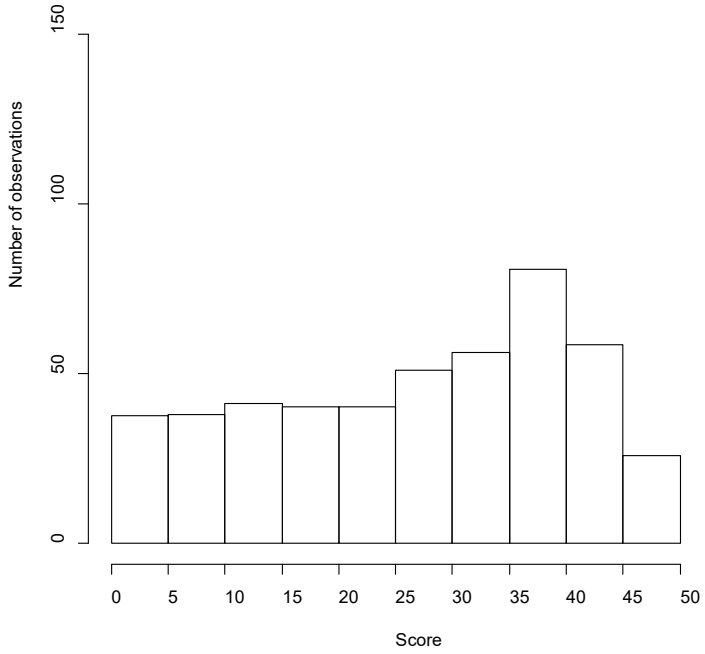


Figure 10 **Hearing and Recording Sounds in words (Revised): achievement distribution for students aged 5:6:1 – 6:0:0**



Achievement distributions for five Observation Survey tasks for students aged between 6:0:1 and 6:6:0

Figure 11 **Letter Identification: achievement distribution for students aged 6:0:1 – 6:6:0**

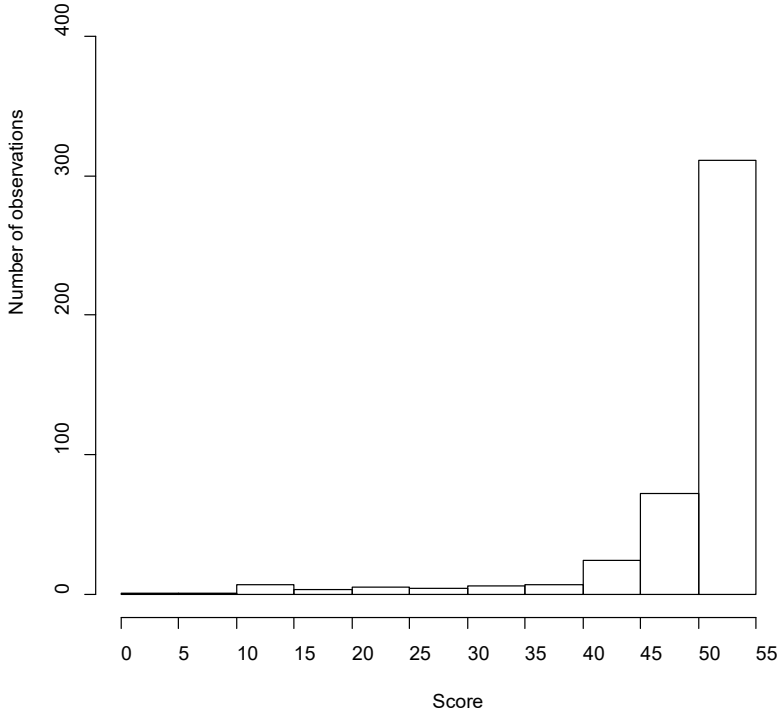


Figure 12 **Concepts About Print: achievement distribution for students aged 6:0:1 – 6:6:0**

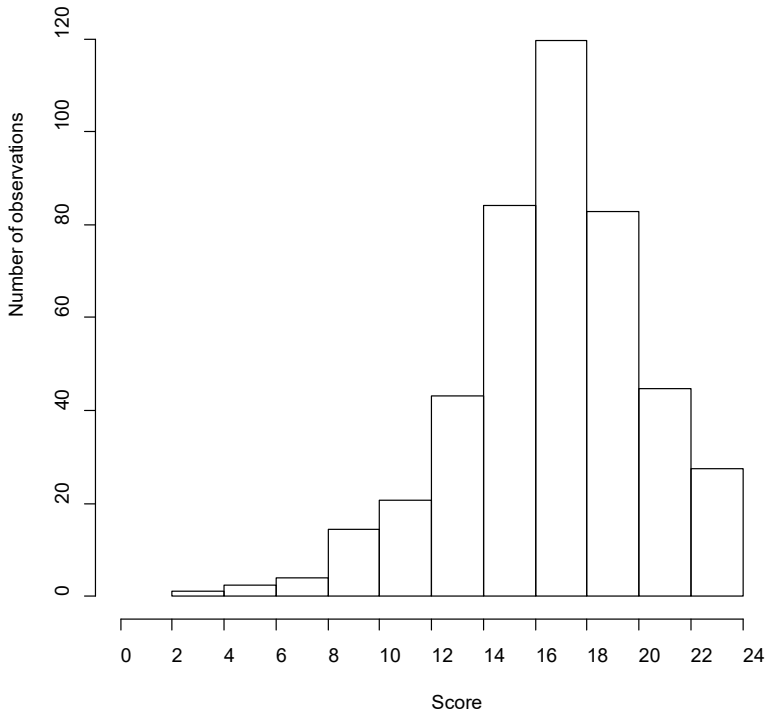


Figure 13 **Clay Word Reading: achievement distribution for students aged 6:0:1 – 6:6:0**

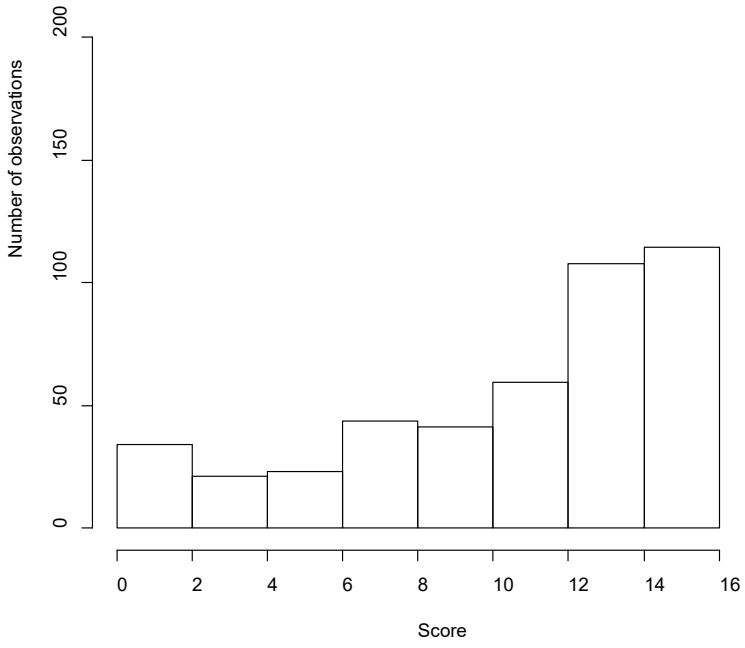


Figure 14 **Writing Vocabulary: achievement distribution for students aged 6:0:1 – 6:6:0**

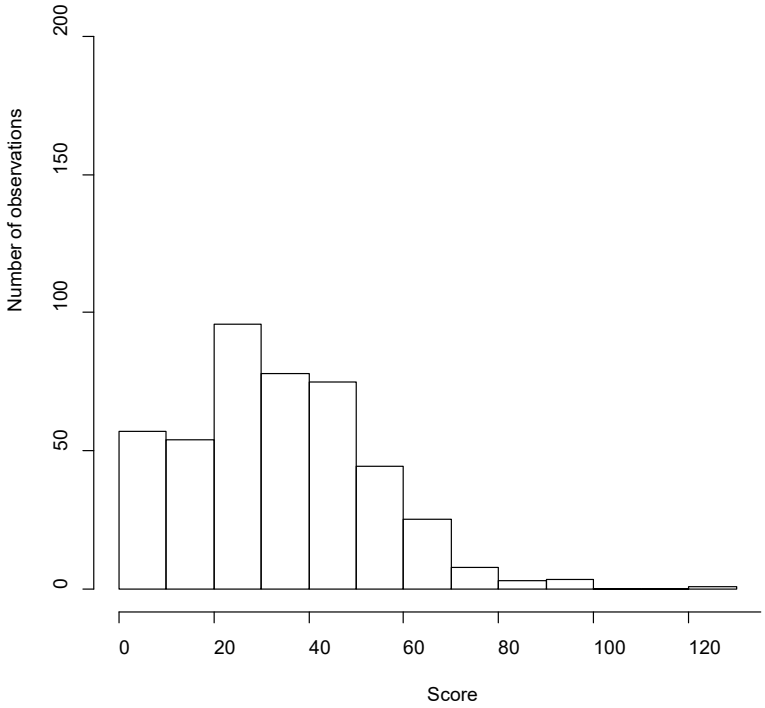
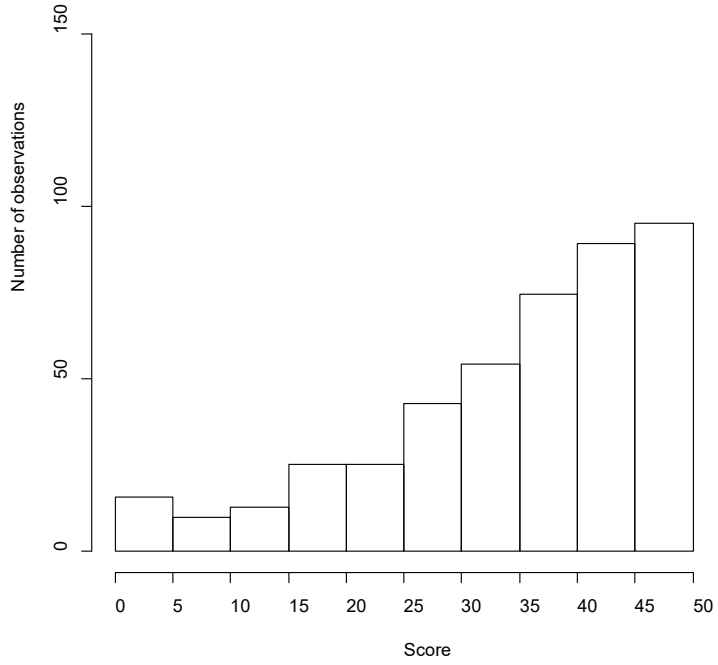


Figure 15 **Hearing and Recording Sounds in words (Revised): achievement distribution for students aged 6:0:1 – 6:6:0**



Achievement distributions for five Observation Survey tasks for students aged between 6:6:1 and 7:0:0

Figure 16 **Letter Identification: achievement distribution for students aged 6:6:1 – 7:0:0**

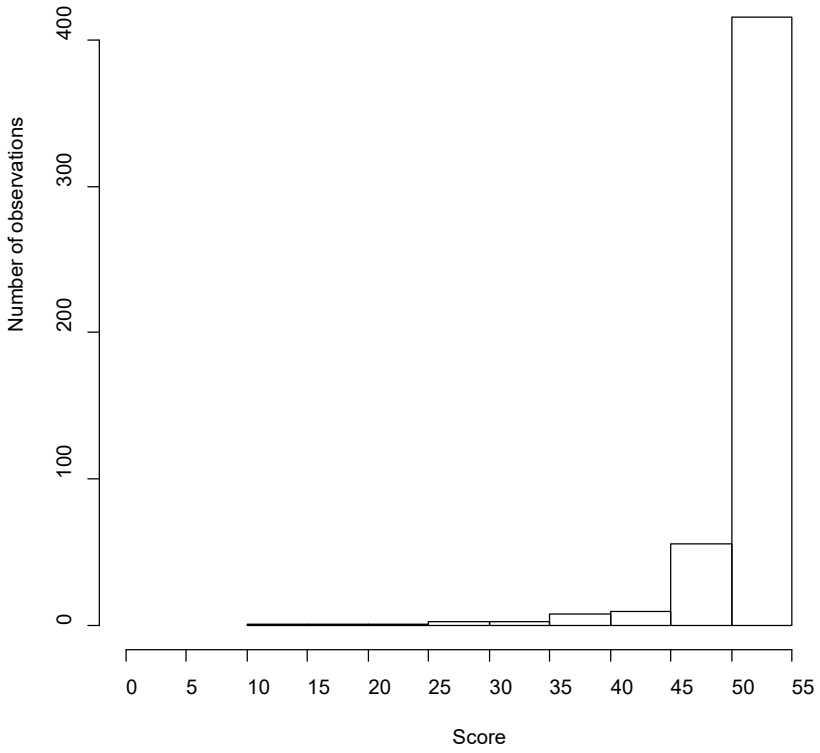


Figure 17 **Concepts About Print: achievement distribution for students aged 6:6:1 – 7:0:0**

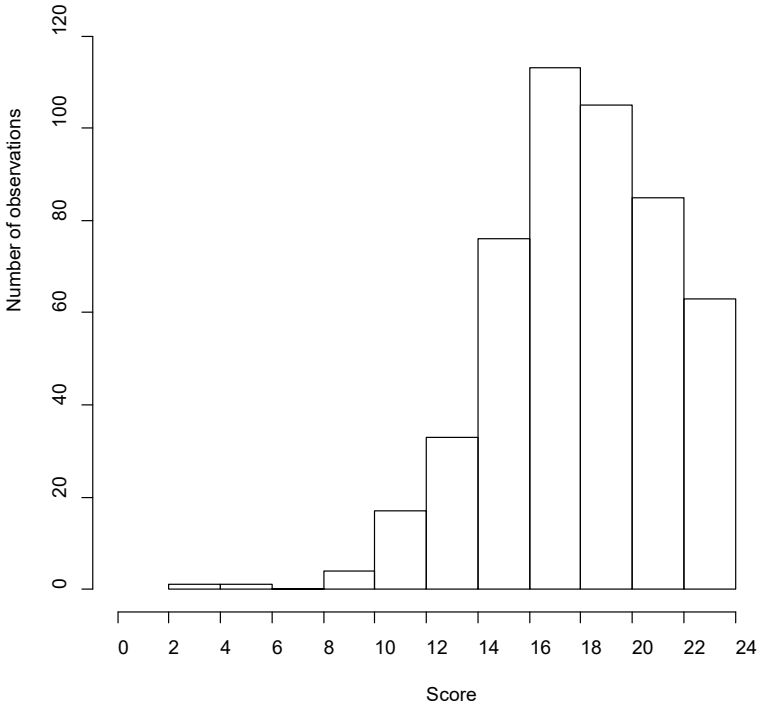


Figure 18 **Clay Word Reading: achievement distribution for students aged 6:6:1 – 7:0:0**

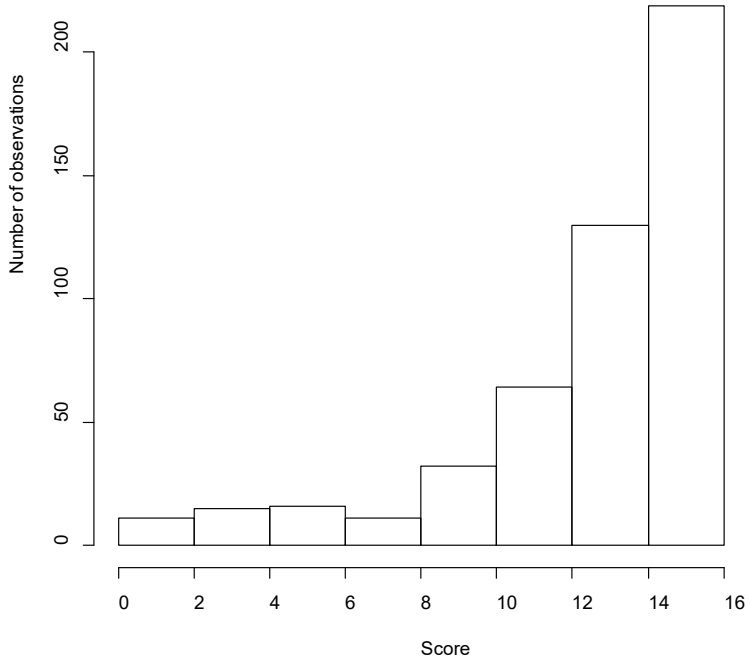


Figure 19 **Writing Vocabulary: achievement distribution for students aged 6:6:1 – 7:0:0**

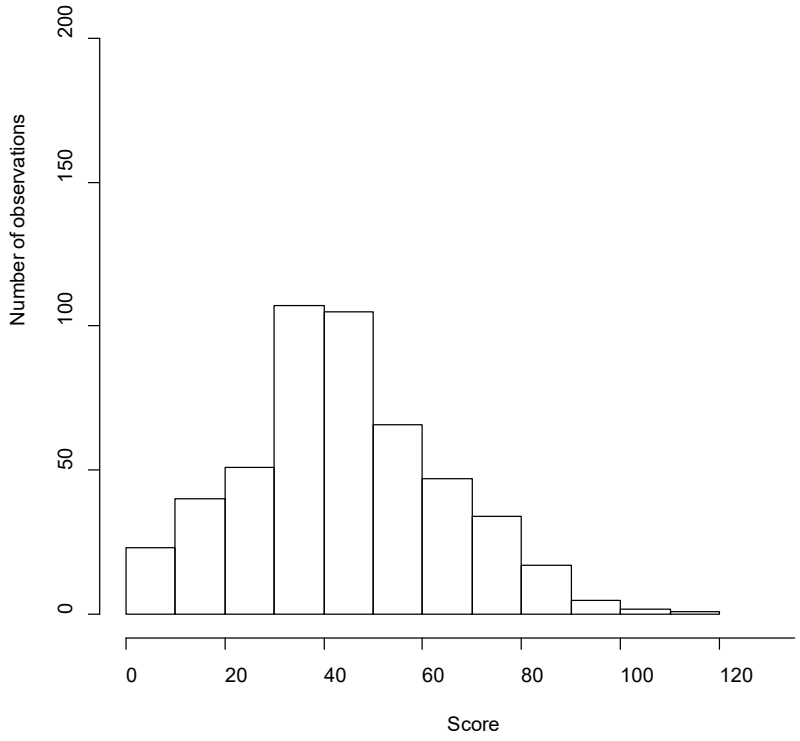
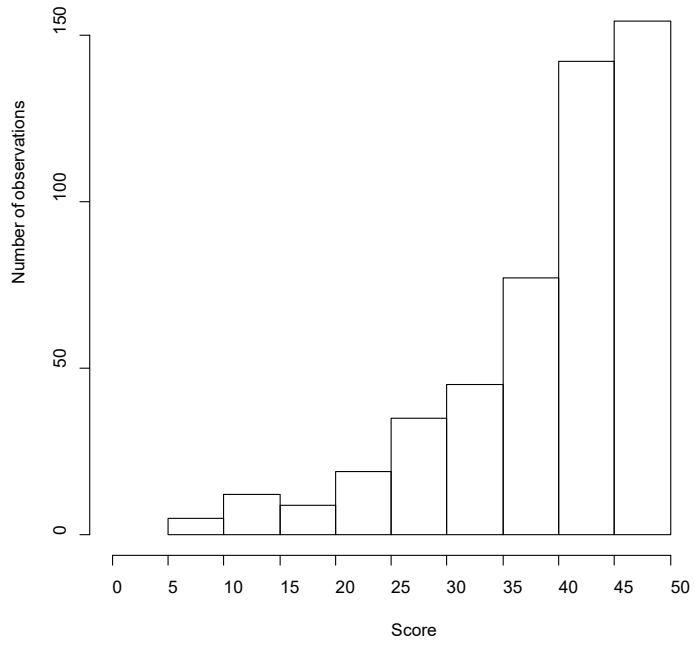


Figure 20 **Hearing and Recording Sounds in words (Revised): achievement distribution for students aged 6:6:1 – 7:0:0**



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