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GUIDE TO THE LEARNER ASSESSMENT WORKSHOPS
Namibia Ministry of Education and Culture

Workshop 1

How Do Primary School Learners Perform in English, Oshindonga, and Maths?

Workshop 2

What Community and School Qualities Help to Raise Achievement?

Windhoek
May 1993

Overview of Workshops

The Ministry's reforms -- aimed at improving primary school quality -- include a commitment to understanding two important questions:

- Does the reform program overall yield real change inside classrooms, especially gains in learner achievement?
- Which specific programs and activities most effectively lead to achievement gains?

In 1992, baseline achievement data were collected by assessing the performance of over 12,000 primary-school pupils in three subjects: Oshindonga, English, and mathematics. These initial two workshops will address two sets of issues:

- **Workshop 1.** How did Grade-7 learners perform overall on the assessment exams? When we look at specific skill areas covered in the exams -- specified by the curriculum reference groups in developing the exams -- how did learners perform? What major areas of weakness are revealed which should be addressed in the new curricular materials? How does performance on different skill areas differ across different types of learners? Do the exam items consistently assess the intended skill areas?
- **Workshop 2.** What factors explain variation in learner performance in English and Oshindonga? What is the relative influence of community and family context versus school quality in raising pupil achievement levels? How do these explanatory factors and achievement models vary across different language groups?

Objectives and Style of the Workshops

The fundamental objective of the workshops is to **clearly describe the analytic procedure used in answering the questions specified above.** Our aim is to show how Ministry staff can engage in this kind of learner assessment over time and analyze data to provide evidence on these achievement questions. Curriculum development, as an ongoing process, should be informed by learners' actual levels of proficiency. And long-term rationalization of the Ministry's budget process should involve determination

of what specific investments are more likely to yield achievement gains inside classrooms. We hope to aid Ministry staff in developing the capacity to conduct this type of planning and analysis.

We will introduce the following skills and tools during the two workshops:¹

- Participants will become familiar with the process of building a learner assessment instrument (exam) and analyzing exam results to see whether the skill areas intended were really measured by the exam.
- We will discuss how learners' proficiency levels vary across specific skill areas (e.g., reading versus listening comprehension), across subjects (English, Oshindonga, and maths), and across regions and different types of primary schools.
- We will explore how learner-background, community context, and several school qualities may explain variation in overall achievement. This analysis will help to identify which specific reform programs will more likely raise achievement levels.
- We will play with simple computer software that helps in describing achievement patterns and identifying possible causes of variation in achievement among learners.

Two important lines of analysis will **not** be covered during these initial two weeks of discussion: we will not have time to examine differences between regions or former authorities in depth. We will introduce some sharp contrasts. Second, we will not build complex models of achievement. We will be studying relationships between achievement and just one possible causal factor at a time. We will look at several of these so-called "bivariate relationships" (or correlations).

An Active, Talkative, and Loud Workshop Process!

In the spirit of the reform process, the workshops will not be didactic! Participants are expected to raise questions, contribute ideas, brainstorm about how we can better understand achievement in primary school classrooms.

¹ Additional workshops are anticipated, focusing on those topics of special interest to Ministry staff and local educators.

The workshop facilitator, professor Bruce Fuller, will provide the results of initial analyses and help guide a "participatory research process," whereby seminar participants can suggest alternative ways of looking at the data. But talking about possible patterns, we can discover new relationships. This is truly a process of discovery... **but we need your active participation and ideas in the process.** Individual and group exercises will help spark new ideas about how to play with this wealth of data on learner achievement.

We also have included a fourth day to conducted further analyses and to respond to questions that arise during the first three days.

Organization of The Workshop Guide

This guide is arranged in two parts: The section entitled, **Workshop 1** covers the first week; **Workshop 2** covers the second week. Each workshop is organized into the following six time-blocks, plus the open time on Day 4.

- [1] Review the contents and organization of the workshop, making adjustments suggested by participants.
- [2] Discuss the learner-assessment project: how the pupil exams were constructed with curriculum-advisors, how the data were collected, basic characteristics and representative nature of the schools sampled for the cross-sectional (136 schools) and longitudinal schools (20 schools).
- [3] Focus on descriptive data. We will look at individual exam items and total exam scores. We will examine initial results and play with the computer to investigate different patterns in the data.
- [4] Focus on possible explanatory factors. We will then begin the complex process of modeling achievement. During each week we will focus on how exam performance (on clusters of similar exam items and total exam scores) varies across regions, former authority, language groups, types of primary schools, and pupil gender. We will begin to look as correlations among pupil-background, community context, school characteristics with achievement levels.
- [5] We will brainstorm on how to improve the learner-assessment process, including collecting new data on teacher qualities and pupil background.

Acknowledgements

These workshops are an important part of this first-ever national assessment of learner achievement. This ambitious project involves the work of many individuals: Minister Angula has shown wise leadership in supporting careful study of learner achievement within the National Basic Education Reform Program. The Learner Assessment project is based within NIED and supported by Richard Trewby, Cowlie van der Merwe, Rod Nesbitt, and Gordon Behm. The analytic work on the school quality data base is centered within ISDD, led by Joseph Mukendwa (Director of Planning), Friedhelm Voigts, and Sue Grant Lewis. Elizabeth Blake and David Cownie at SIAPAC/Namibia managed the massive data collection effort in Year 1 (1992). These two workshops were organized in collaboration with the Harvard University team, involving Ndeshi Victoria Nicodemus, Hua Haiyan, and Bruce Fuller.

WORKSHOP 1

How Do Primary School Learners Perform in English, Oshindonga, and Maths?

SCHEDULE FOR WORKSHOP 1
How Do Primary-School Learners Perform in Specific Skill Areas?

DAY 1

9.00 am ■ Introductions and overview of the workshop.

10.00 am ■ Review of Learner Assessment Project

Introduced by Sue Grant Lewis.

- Review of available data on learner outcomes and causal/explanatory factors: types of achievement, pupil-background, community, and school data presently available.

[Figure A]

11.00 am Tea break.

11.20 am ■ Discussion of exam items and skill areas, starting with English.

- **Exercise:** How should exam items cluster together?

12.15 pm ■ Descriptive data on English-7 achievement: individual exam items by test section.

[Figures 1.1, 1.2, 1.3 and 1.4]

- Item performance by home language groups for selected items.

[Figure 1.4B]

- **Computer exercise:** Looking at the difficulty of exam items, which items are likely to "cluster together" or being correlated with each other?

[Table 1.1 - correlation matrix and Figure 1.5, school-level plot]

13.00 pm Adjourn Day 1.

DAY 2

- 9.00 am ■ **Oshindonga-7 achievement** for individual exam items.

[Figure 1.6 and 1.7]

- **Oshindonga-7 item performance** by "best classroom language" groups.

[Figure 1.7B]

- **Discussion of item difficulty** and whether similar exam items are likely to cluster together (that is, do they appear to be correlated with each other?).

[**Reading comprehension:** Table 1.2A, cross-tabulations and correlation matrix; **Listening comprehension:** Table 1.2B]

10.45 am Tea break

- 11.00 am ■ **Maths-7 exam items** -- pupil performance for 3 major segments of the exam.

[Figures 1.8, 1.9, 1.10 and 1.11]

- Maths-7 segment by home language groups.

[Figure 1.12]

- **Computer exercise:** Playing with data on Maths-7 exam segments for different types of learners: graphs by home language. **Which other pupil variables?**

[Table 1.4, cross-tabs and small corr. matrix;

Table 1.5, cross-tabs for Q14 x AFRIKAANS;

Table 1.6, corr. matrix for AFRIKAANS, SEX by Q19A to Q21A]

13.00 pm

Adjourn Day 2.

DAY 3

9.00 am

- How to more precisely analyze the reliability of related exam items... that is, measuring similar curricular skills?

How to picture reliable and unreliable pairs and clusters of test items?

- Reviewing basic correlations among exam items in **Maths-7...** and **focusing on relationships across exam segments.**

[Review Table 1.7A; New-index Table 1.7B]

- Do these correlations among items differ for different learner groups? Comparing inter-item correlations between pupils with home-language **All Owambo vis-à-vis Afrikaans.**

[Table 1.8, Maths-7]

11.00 am

Tea break

11.20 am

- Item-reliability scores [alpha coefficients] and systematically eliminating unreliable items... for two **English-7 Reading Comprehension** segments and for **Listening Comprehension**.

Exercise A: Eng-7 Reading Comprehension 1 and 3.

[Table 1.9A and Table 1.9B]

Exercise B: Eng-7 Listening Comprehension.

[Table 1.10A and Table 1.10B]

- **Overall reliability for all Reading Comprehension exam items:** trade-off between precision on skill areas and maximizing item reliability across the entire reading comprehension area.

[Table 1.11]

12.40 pm

- Review of the workshop and discussion of priority questions/topics for the next workshop.

1.15 pm

Lunch for workshop participants.

WORKSHOP 2
What Community and School Qualities Help to Raise Achievement?

SCHEDULE FOR WORKSHOP 2
What Community and School Qualities Help to Raise Achievement?

DAY 1

9.00 am ■ Introductions and overview of the workshop.

9.45 am ■ Review of Learner Assessment Project.

Introduced by Sue Grant Lewis.

- Review of learner outcomes and causal factors: types of pupil achievement, pupil-background, community, and school data presently available.

[Figure A]

10.30 am Tea break.

10.50 am ■ Describing overall achievement levels in English-7, Oshindonga-7, and Maths-7

- Three different methods for calculating total exam scores [TES Scores]... and correlations among the three.

[Tables 2.1 and 2.2].

- **Discussion:** Distributions of total exam scores (TES) in English-7, Oshindonga-7, and Maths-7.

[Figures 2.1, 2.2 and 2.3]

- **Computer exercise:** Pupil-level differences in English-7 and Maths-7 TES scores by home language and gender. What other **pupil variables** can be used to look at **contrasting patterns** in English-7 TES scores?

[Figures 2.4 and 2.5]

12.15 pm

- **Exercise:** Brainstorming on factors that may help to explain variation in learner achievement. Delineating the **independent or simultaneous (?)** influences of pupil background, community context, and school quality.
- One possible starting model.

[Figure B]

- A key "measurement issue": do indicators of school quality cluster together, operating in a similar manner? That is, do certain school qualities appear together for "high quality" or "low quality" schools? **Example:** multiple measures of "teacher quality".

[Figure 2.6, plot; Table 2.3, correlation matrix]

- Causes of achievement on which we have no data.

13.00 pm

Adjourn Day 1.

DAY 2

9.00 am

- Review and adjustments to the starting achievement model.

[Figure B]

- **Computer exercise:** Plotting the association between selected **pupil characteristics** -- home language, gender, and age -- and TES English-7 scores.

[Figures 2.7, 2.8, 2.9 and 2.10]

- Linking plots to a correlation coefficient... a simple numeric indicator of the plotted association.
- Correlation matrix for associations between English-7 and pupil characteristics.

[Table 2.4]

- Do these plots and correlations differ across different home-language pupil groups? Example of English-7 and pupil gender / pupil age.

[Figure 2.11 and 2.12, four plots;
Table 2.5, four correlation coefficients]

10.45 am

Tea break

11.00 am

- **Moving to school-level relationships [102 school averages/means, for Grade 7]:** Plotting associations between **community characteristics** and English-7 TES scores. Example - Does the school have electricity?

[Figure 2.13, plot]

- **Aggregating pupil background indicators up to the school level.** Example - Average age in Grade 7 and English-7 TES score.

[Figure 2.14, plot; note corr. coefficient]

- School-level correlations between community/pupil characteristics and TES scores for English-7 and Maths-7.

[Tables 2.6 and 2.7]

- 12.15 pm
- One implication for indicator development: Relating TES scores to other learner outcomes. For example, Grade 7 failure-rates.

[Figure 2.15, plots for boys and girls;
note correlation coefficients]

13.00 pm Adjourn Day 2.

DAY 3

- 9.00 am
- Turning to Maths-7 TES scores -- let's first review the starting model.

[Figure B]

- Basic correlations between [school-level means of] pupil characteristics and community settings.

[Table 2.8]

- 9:45 am
- Focusing now on school quality indicators... looking back at the indicators and the starting model.

[Figure A and Figure B]

- Exercise: Brainstorming on which specific school quality indicators are most strongly related to achievement and which are not related to learner performance?
- Computer exercise: Plotting selected school quality indicators and TES scores for Maths-7: Teacher quality, class-group size, and teacher age. Others?

[Figures 2.16, 2.17 and 2.18]

- Correlation matrices of school quality indicators and TES Math-7 scores.

[Table 2.9]

11.15 am Tea break

- 11.30 am
- **Discussion:** Issues of causality. Do community contexts and school qualities operate **independently** on learner achievement? Two possible flows of causality.

[Figure B and Figure B2]

- Correlations between community characteristics and school quality indicators.

[Table 2.10]

- Special look at the North: correlations between community characteristics and school quality indicators.

[Table 2.11]

- 12.45 pm
- Review of the workshop and discussion of priority questions/topics for the next workshop.

1.15 pm Lunch for workshop participants.

TABLES AND FIGURES FOR WORKSHOP 1

Figure A
MEC PLANNING DIVISION/ISDD LEARNER ACHIEVEMENT DATA

LEARNER OUTCOMES

- Baseline Learner Assessment Scores, 1992
[136 sampled schools, Grades 4 and 7]
 - Oshidonga
 - English
 - Maths

- Longitudinal Learner Assessment, 1992-1994
[20 longitudinal schools, Grades 4, 5, 6, 7]
 - Oshidonga
 - English
 - Maths

- Learner pass and failure rates by grade-level and pupil gender [AEC]²
- Learner persistence rates [AEC]
- Learner enrollment rates [AEC and Census]

² Data come from three major sources: the Annual Education Census and the related Fifteenth-Day Survey [AEC], the national learner assessment, begun in 1992 [LA], the 1991 national census [Census].

EXPLANATORY FACTOR 1 - COMMUNITY CONTEXT

- Major language groups in the school's community [LA]

- Oshindonga
 - Oshikwanyama
 - Other Oshiwambo
 - Afrikaans
 - English

- Urban or rural school setting

- Urban or rural designation [Census]
 - School has electricity [AEC]
 - School has water

EXPLANATORY FACTOR 2 - INDIVIDUAL LEARNER BACKGROUND

- Learner's home language [LA]
- Gender
- Age
- Social class / family income measures [LA, Longitudinal]

EXPLANATORY FACTOR 3 - SCHOOL QUALITY AND CHARACTERISTICS

- Teacher qualities

- Qualification 1 = Lower than Grade 12 [15th-day]
 - Qualification 2 = Completed Grade 12 (Std. 10), N3 or equivalent
 - Qualification 3 = Grade 12 plus 1 or 2 years tertiary
 - Qualification 4 = Grade 12 plus 3 or more years tertiary
 - Subject specialties [for example, English teachers]

Gender
Age
Years of teaching experience
Salary level
Language of instruction
Non-Namibian teachers

- Classrooms and instructional materials

Size of class groups [by grade-level]
Issuance of textbooks [by subject area]

- School-level characteristics and facilities

Size [total enrollments]
Quality of facilities [for example, traditional classrooms
sanitary facilities, offices]
Presence of a library
Double sessions or platoon system
Former administrative authority

FIGURE B

STARTING LEARNER-ACHIEVEMENT MODEL

**Explanatory Causes of Variation
in Learner Performance**

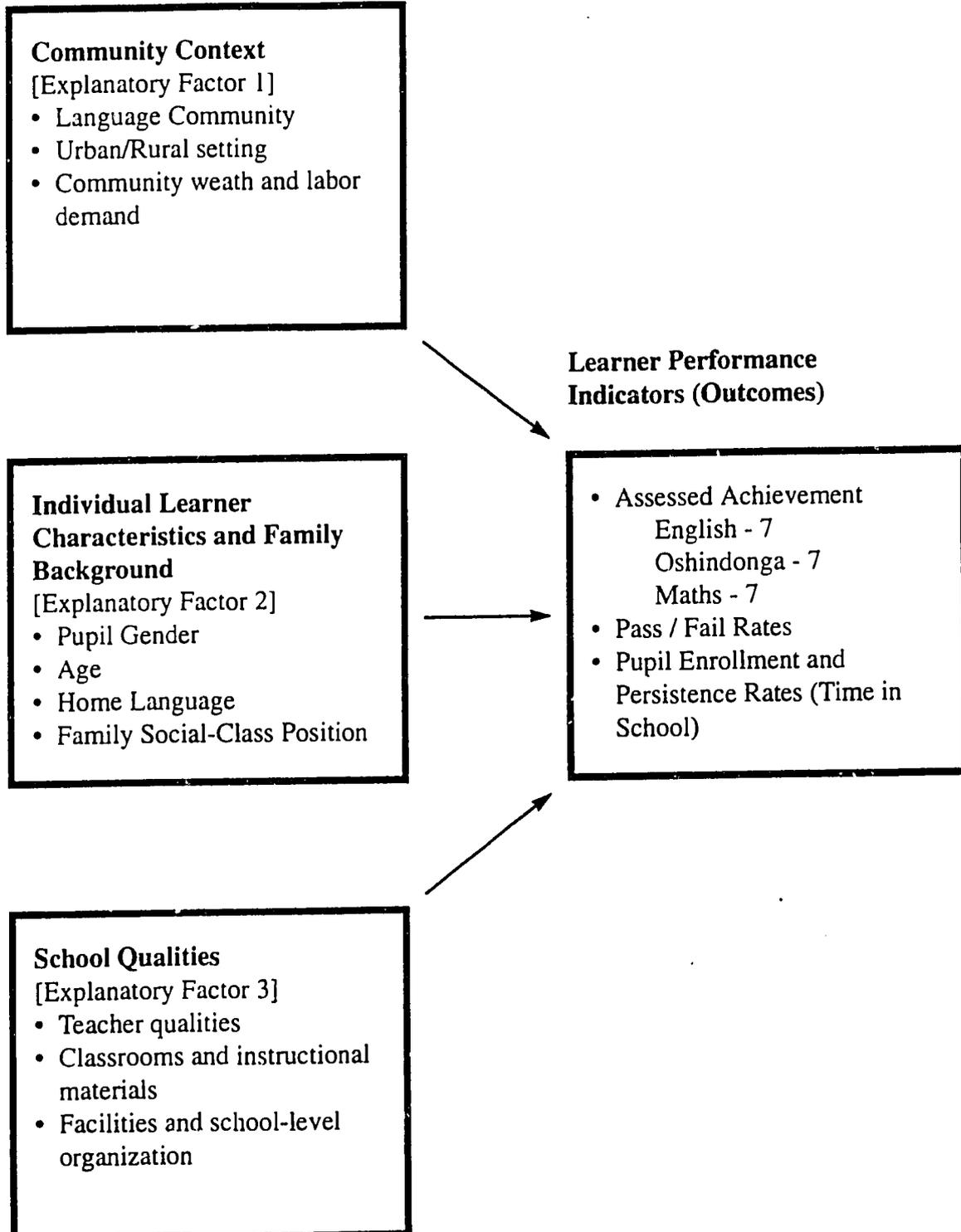


FIGURE B2

ALTERNATIVE FLOW OF CAUSALITY

Explanatory Causes of Variation in Learner Performance

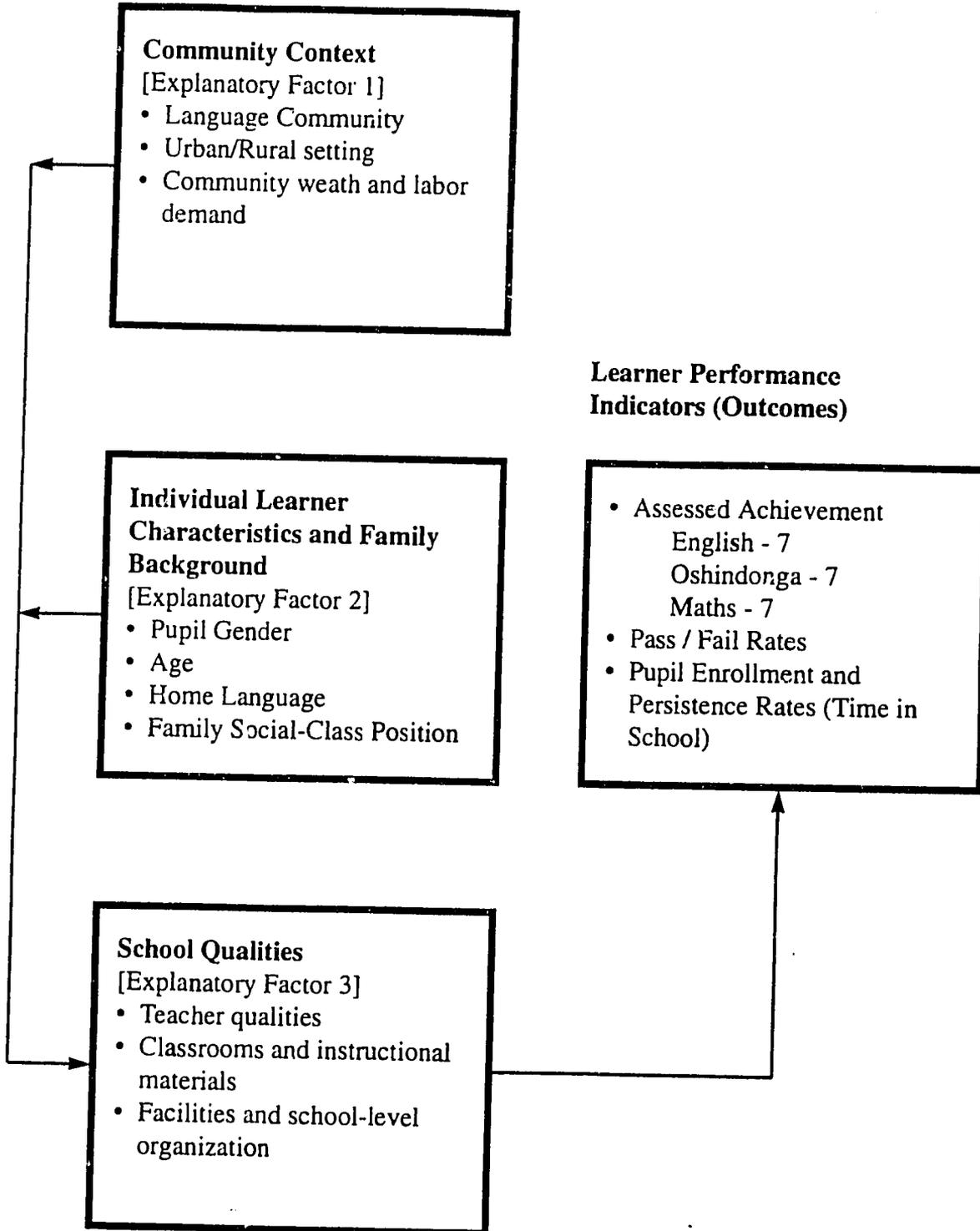
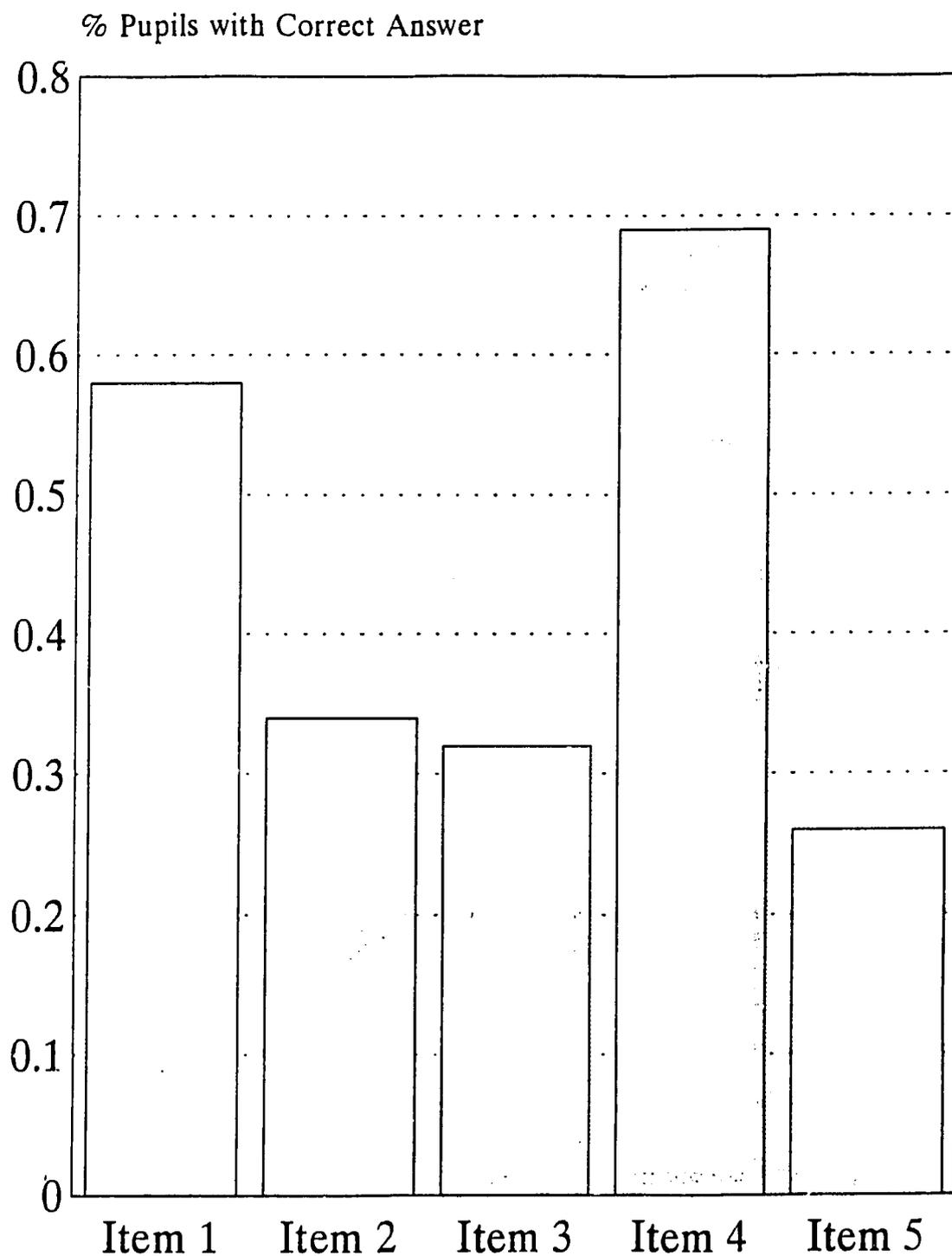


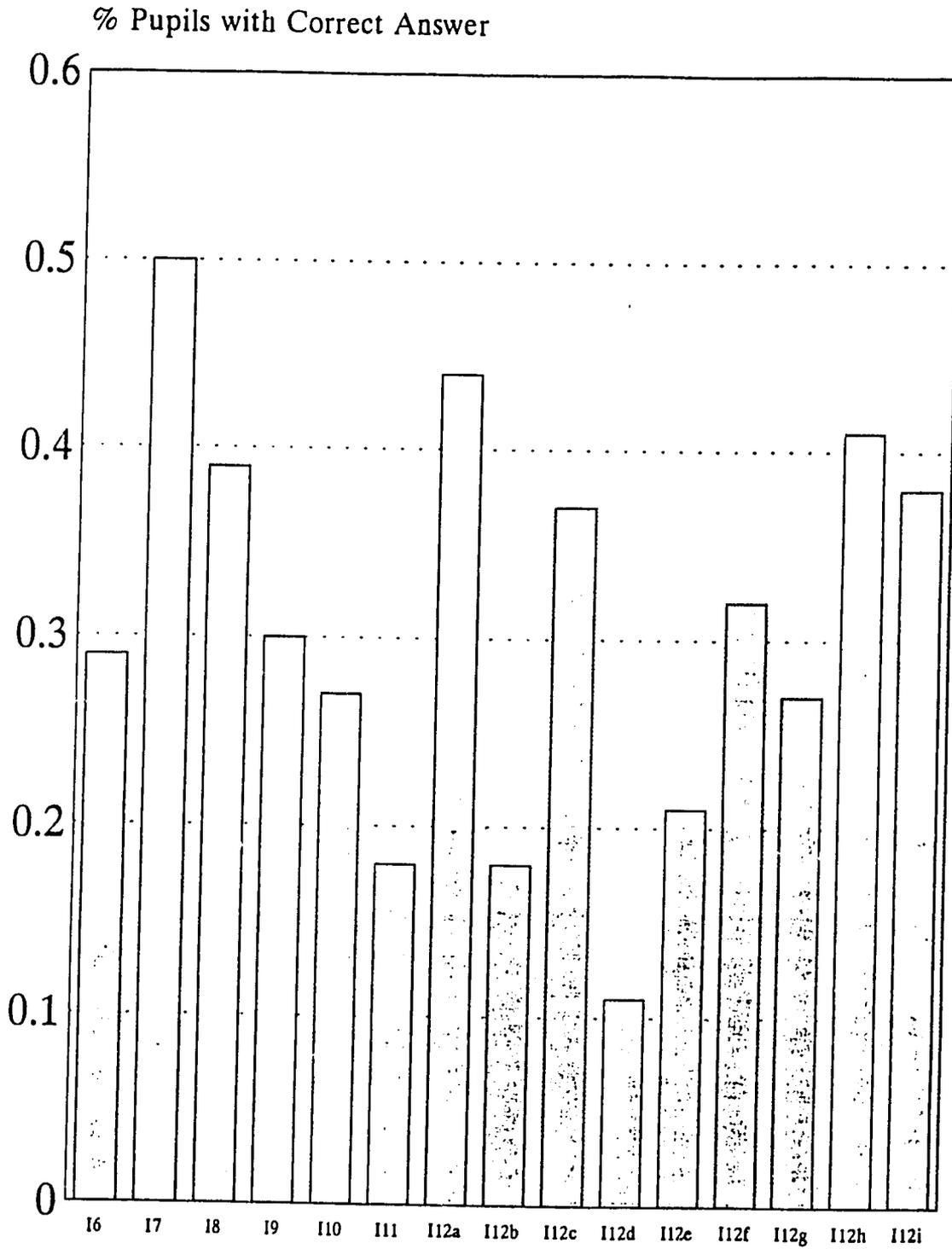
Figure 1.1
English Reading Comprehension 1 - Item Difficulty



English-7 pupils only [n=2548]

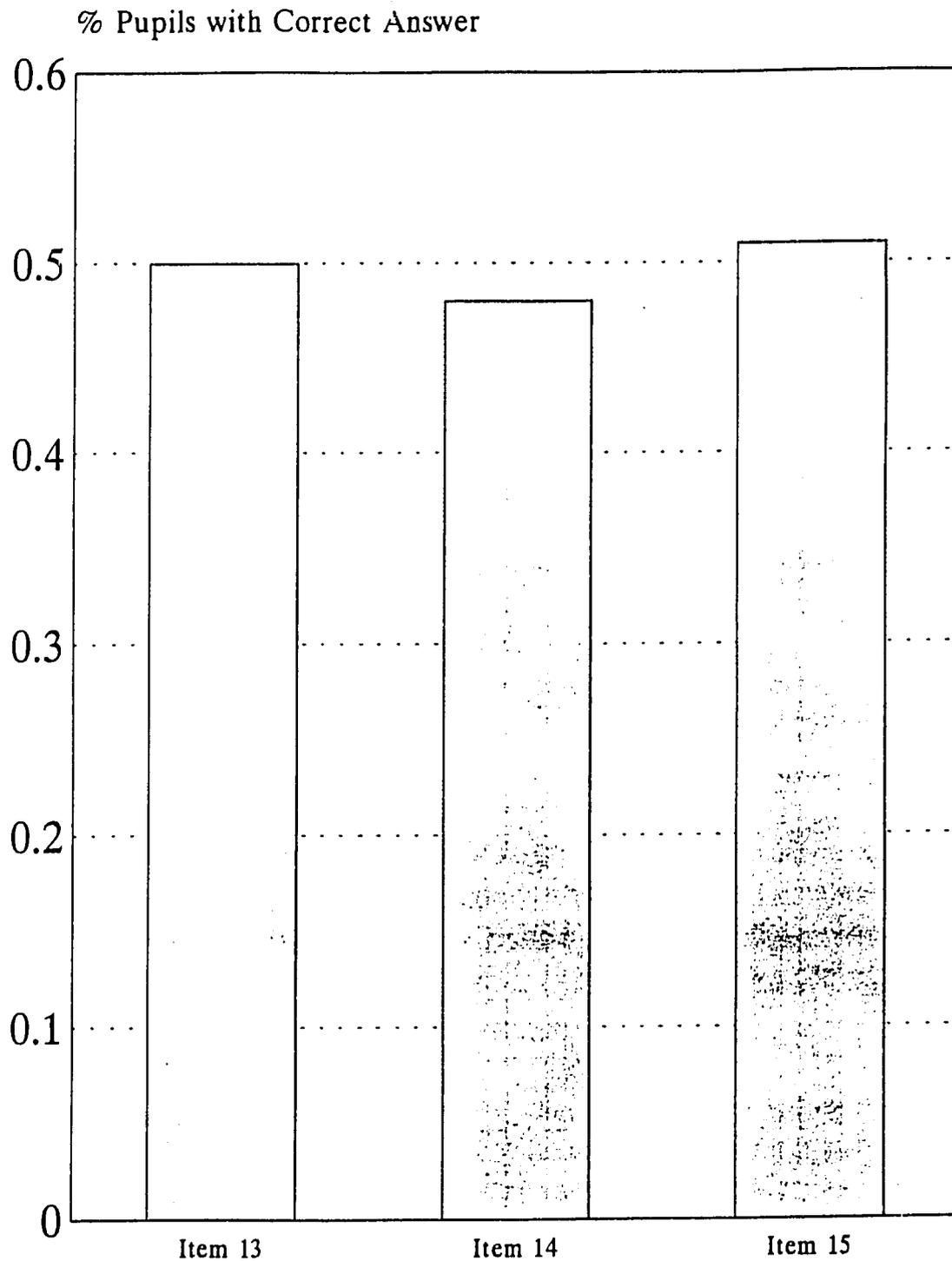
Figure 1.2

English Reading Comprehension 2 - Item Difficulty



English-7 pupils only [n=2548]

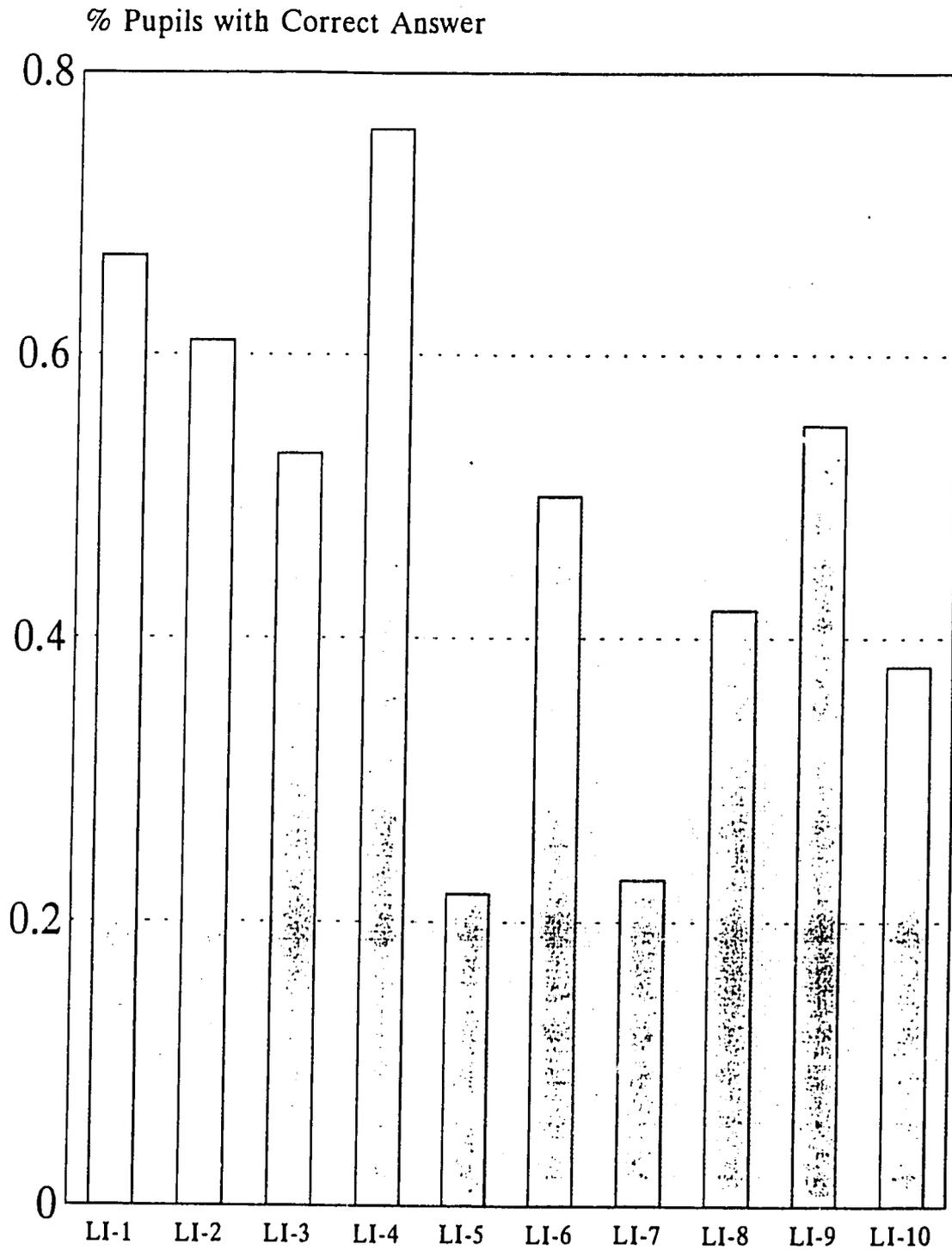
Figure 1.3
English Reading Comprehension 3 - Item Difficulty



English-7 pupils only [n=2548]

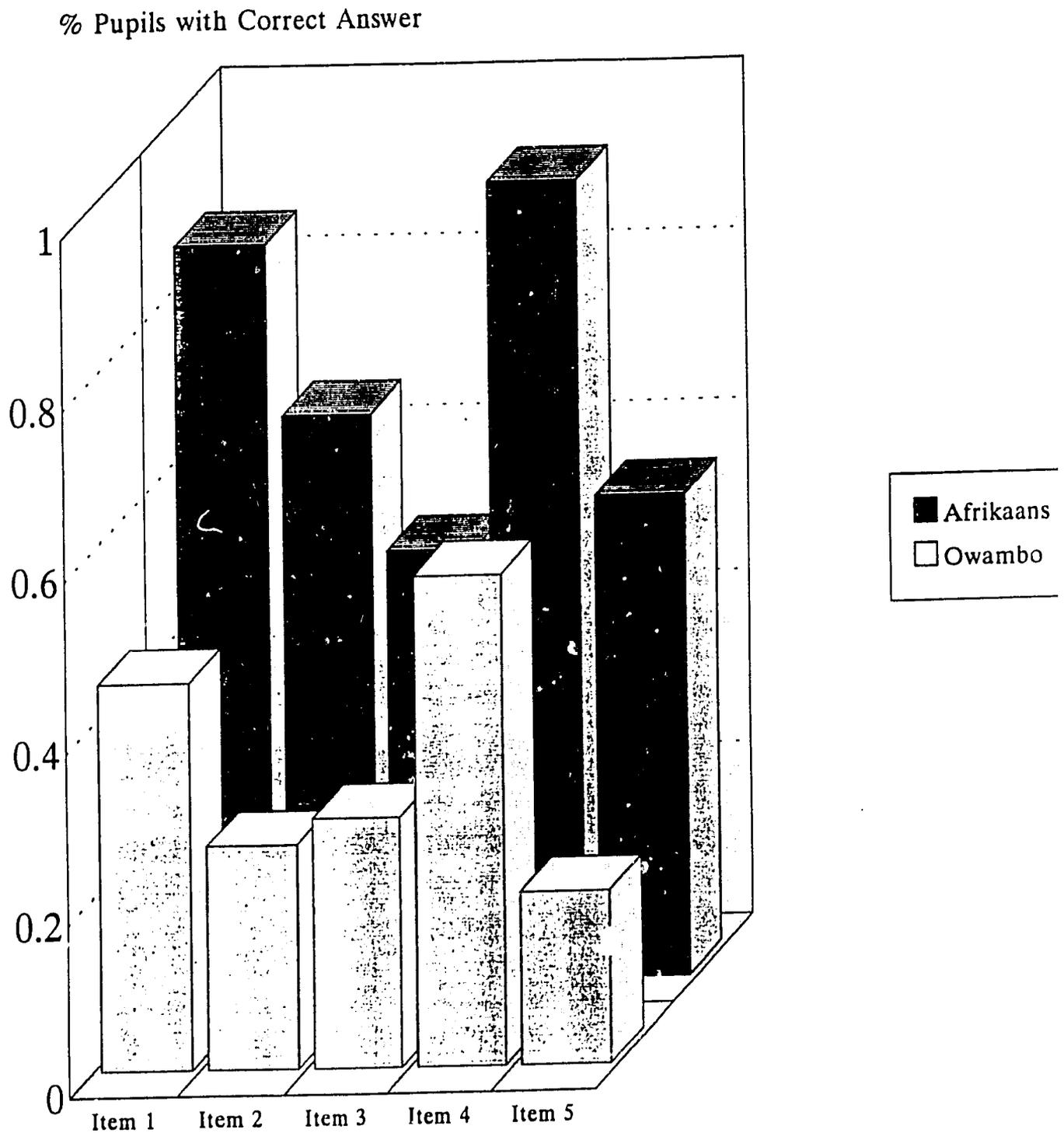
Figure 1.4

English Listening Comprehension - Item Difficulty



English-7 pupils only [n=2548]

Figure 1.4B
English Comprehension 1 by Pupil Home Language



English-7 pupils: Afrikaans home language (n=363); All Owambo home language (n=1323)

Table 1.1

ENGLISH-7 ITEMS - CROSS-TABULATIONS AND CORRELATIONS
For Q13 thru Q15

Count		Q14		Row Total
		.00	1.00	
Q13	.00	959	451	1410 50.8
	1.00	514	852	1366 49.2
Column Total		1473 53.1	1303 46.9	2776 100.0

Correlations:

	Q13	Q14	Q15
Q13	1.0000	.3044**	.1823**
Q14	.3044**	1.0000	.1847**
Q15	.1823**	.1847**	1.0000

N of cases: 2776 2-tailed Signif: * - .01 ** - .001

Figure 1.5

PLOT OF RELATIONSHIP BETWEEN TWO READING COMP. ITEMS

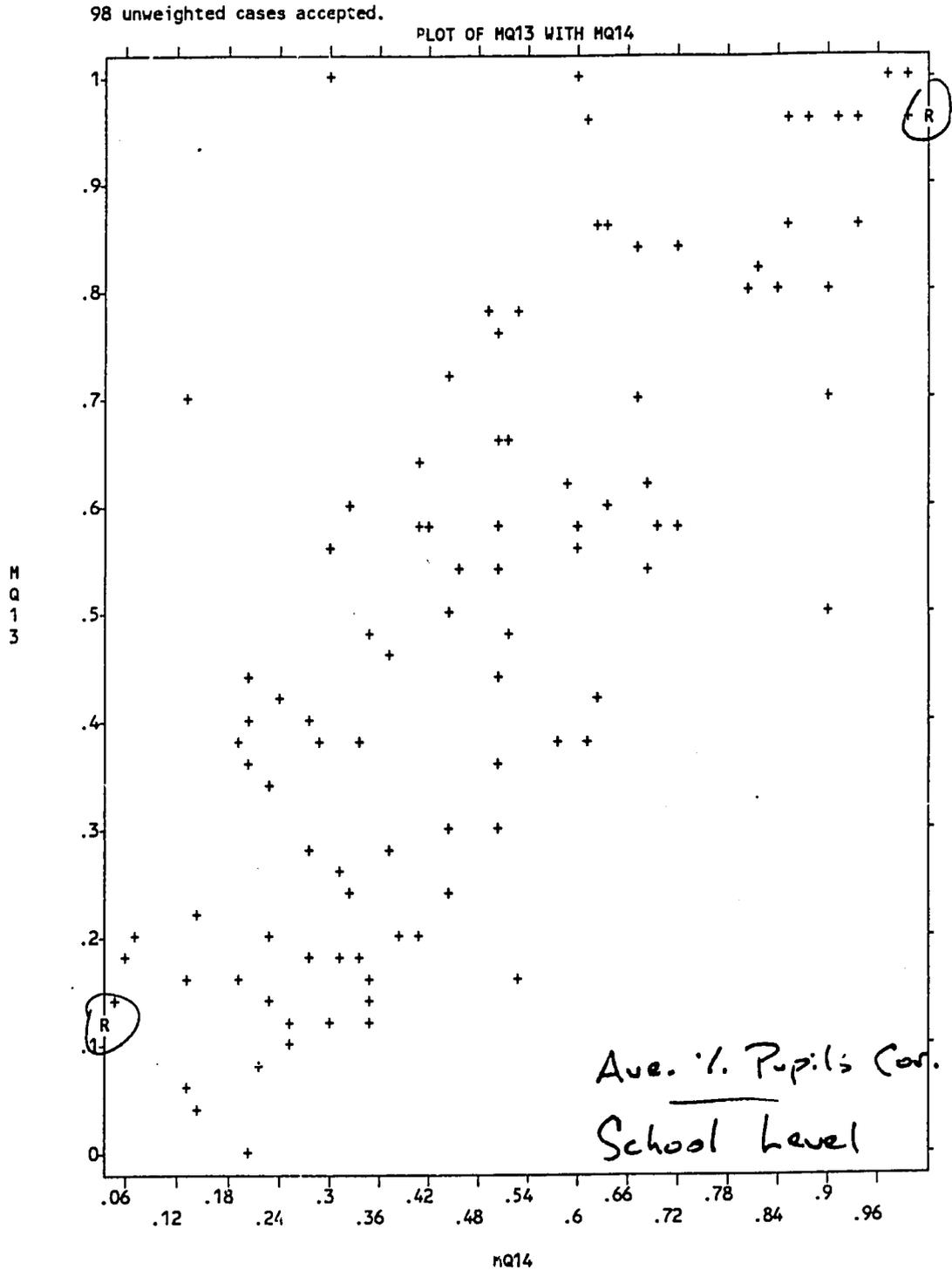
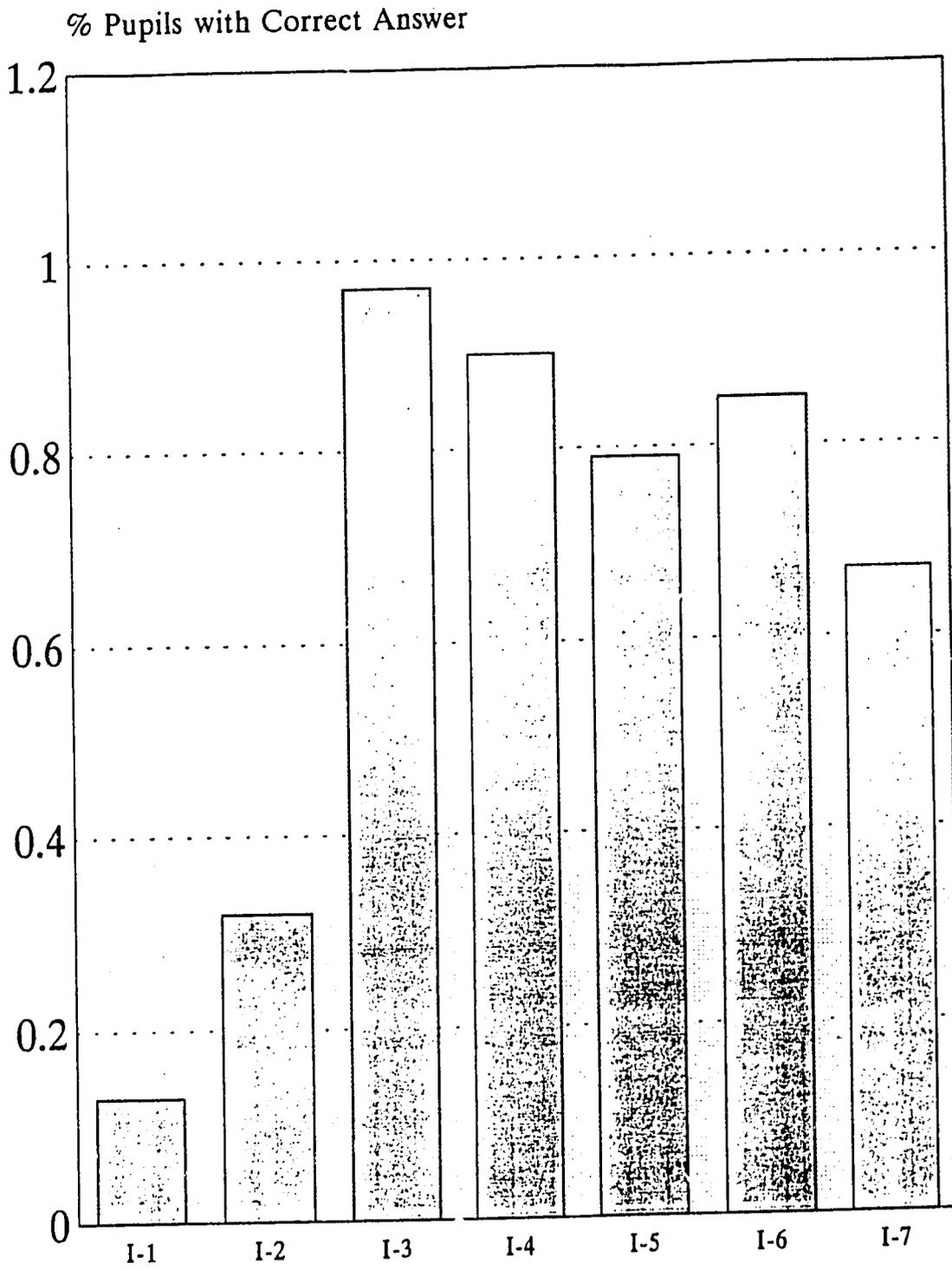
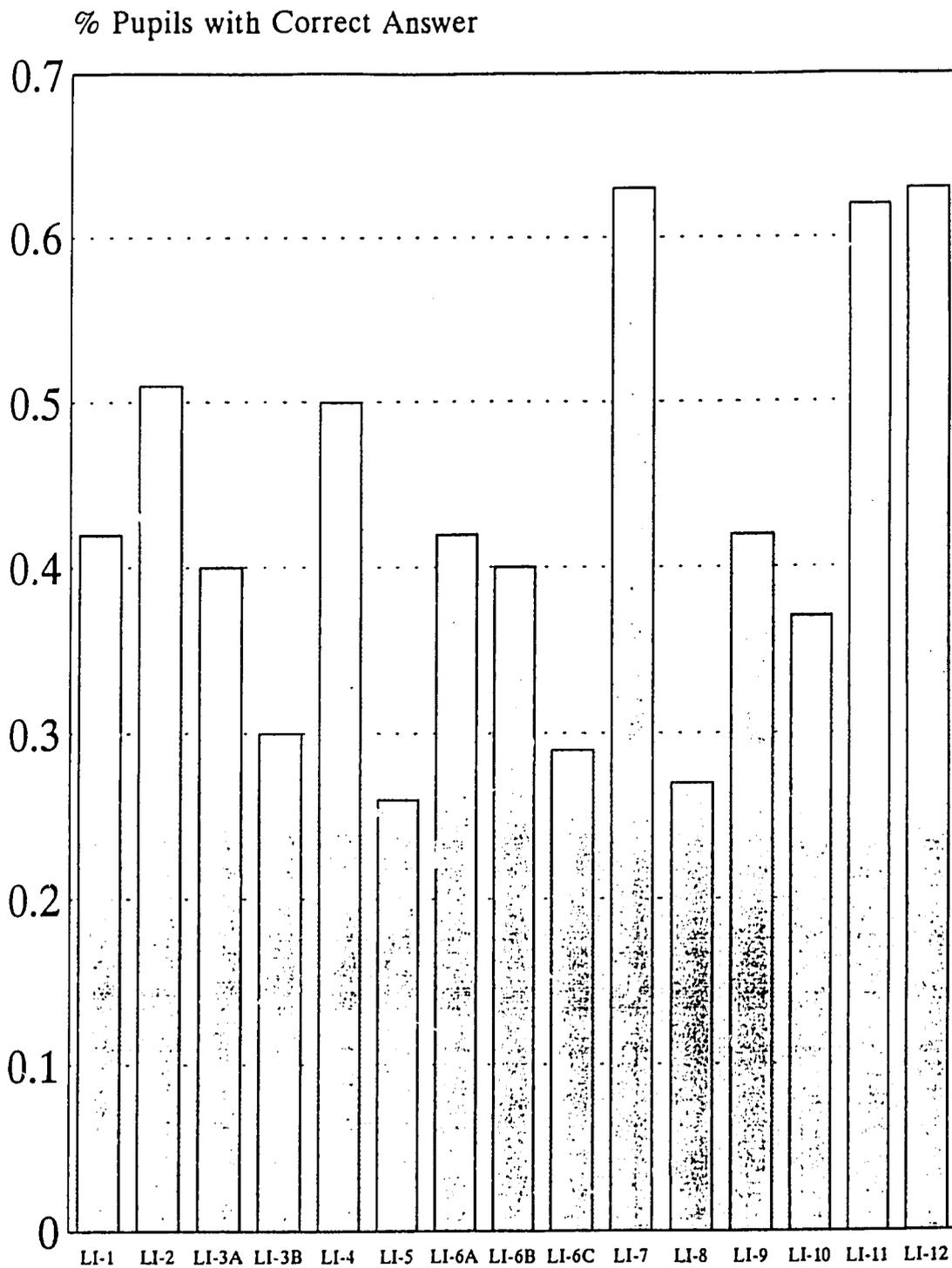


Figure 1.6
Oshindonga Reading Comprehension - Item Difficulty



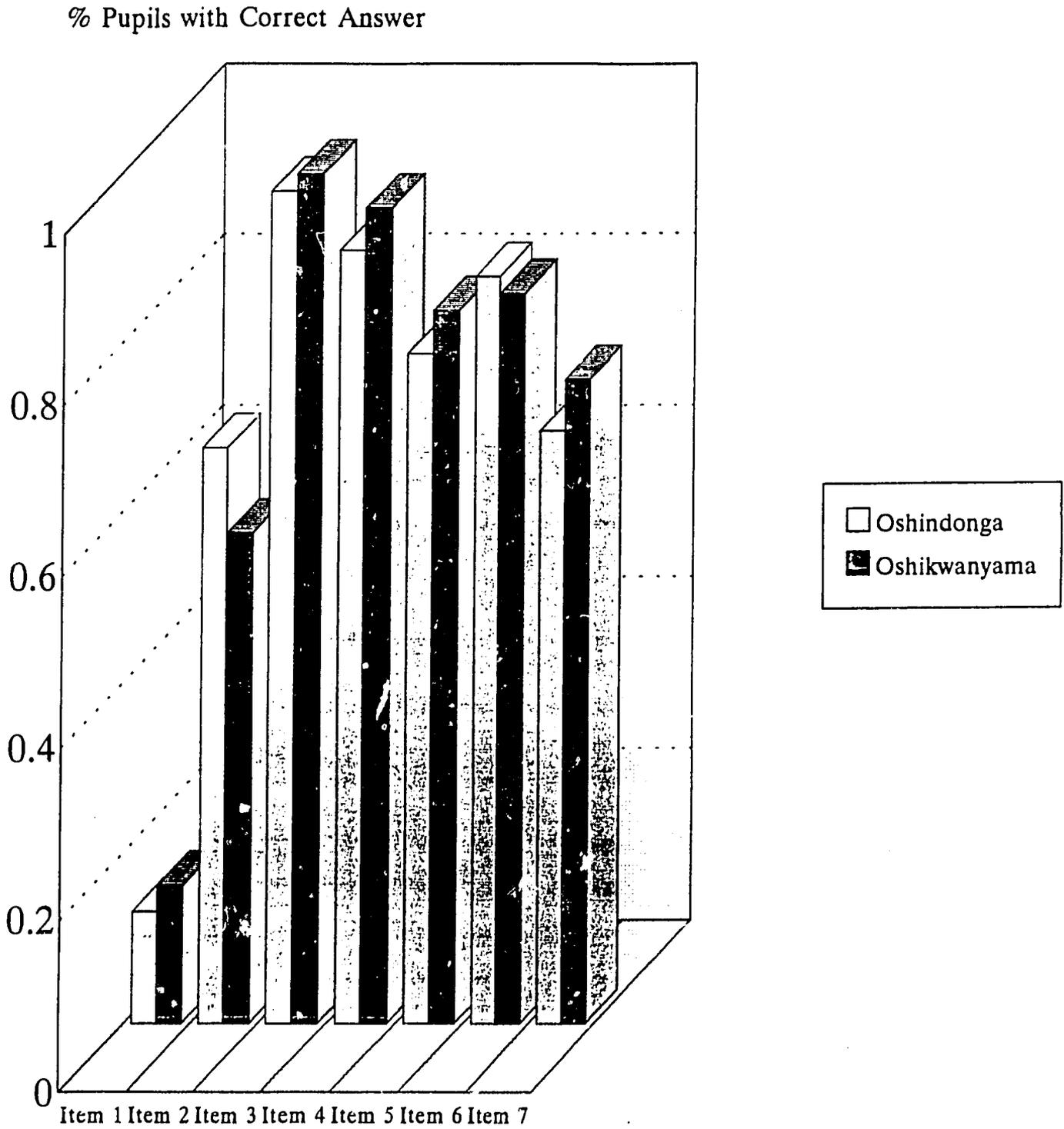
Oshindonga-7 pupils only [n=565]

Figure 1.7
Oshindonga Listening Comprehension - Item Difficulty



Oshindonga-7 pupils only [n=565]

Figure 1.7B
Oshindonga Reading Comprehension by Best Classroom Language



Oshindonga-7 pupils: Oshindonga best language (n=348); Oshikwanyama best language (n=131)

Table 1.2A

OSHINDONGA-7 -- INTER-ITEM CROSS-TABS AND CORRELATIONS
For Reading Comprehension Items

Count		Q7		Row Total
		.00	1.00	
Q6	.00	37	40	77 14.1
	1.00	129	339	468 85.9
Column Total		166 30.5	379 69.5	545 100.0

Correlations:	Q1	Q2	Q3	Q4	Q5	Q6	Q7
Q1	1.0000	-.0001	-.0685	.0010	-.0224	-.0352	-.0513
Q2	-.0001	1.0000	.0335	.1405*	.1258*	.1576**	.1688**
Q3	-.0685	.0335	1.0000	-.0192	.0258	.1272*	.1127*
Q4	.0010	.1405*	-.0192	1.0000	.2750**	.0794	.1897**
Q5	-.0224	.1258*	.0258	.2750**	1.0000	.1945**	.1352*
Q6	-.0352	.1576**	.1272*	.0794	.1945**	1.0000	.1501**
Q7	-.0513	.1688**	.1127*	.1897**	.1352*	.1501**	1.0000

N of cases: 536 2-tailed Signif: * - .01 ** - .001

Table 1.2B

OSHINDONGA-7 -- INTER-ITEM CROSS-TABS AND CORRELATIONS
For Listening Comprehension Items

Count		Q2POINT		Row Total
		.00	1.00	
Q1POINT	.00	217	111	328 58.1
	1.00	62	175	237 41.9
Column Total		279 49.4	286 50.6	565 100.0

Correlations: Q1POINT Q2POINT Q3APOINT Q3BPOINT Q4POINT Q5POINT Q6APOINT

Q1POINT	1.0000	.3948**	.4515**	.4279**	.4714**	.3339**	.4403**	.4250**
Q2POINT	.3948**	1.0000	.5865**	.4102**	.6461**	.3728**	.4522**	.4394**
Q3APOINT	.4515**	.5865**	1.0000	.6968**	.5763**	.3870**	.4295**	.4115**
Q3BPOINT	.4279**	.4102**	.6968**	1.0000	.4890**	.3148**	.3886**	.3725**
Q4POINT	.4714**	.6461**	.5763**	.4890**	1.0000	.4215**	.4785**	.5233**
Q5POINT	.3339**	.3728**	.3870**	.3148**	.4215**	1.0000	.2356**	.3281**
Q6APOINT	.4403**	.4522**	.4295**	.3886**	.4785**	.2356**	1.0000	.6453**
Q6BPOINT	.4250**	.4394**	.4115**	.3725**	.5233**	.3281**	.6453**	1.0000
Q6CPOINT	.3573**	.3679**	.3637**	.3410**	.4081**	.2694**	.5793**	.6278**
Q7POINT	.5622**	.7024**	.5784**	.4503**	.6769**	.4188**	.5770**	.5639**
Q8POINT	.3416**	.3517**	.3463**	.3388**	.3922**	.3348**	.3174**	.3782**
Q9POINT	.2644**	.5343**	.4556**	.4018**	.5034**	.4053**	.4225**	.4586**
Q10POINT	.4521**	.4447**	.4292**	.3891**	.4995**	.2739**	.4892**	.4386**
Q11POINT	.5728**	.6654**	.5581**	.4480**	.6761**	.4062**	.6097**	.5733**
Q12POINT	.5473**	.6584**	.5559**	.4503**	.6769**	.4188**	.6142**	.5789**

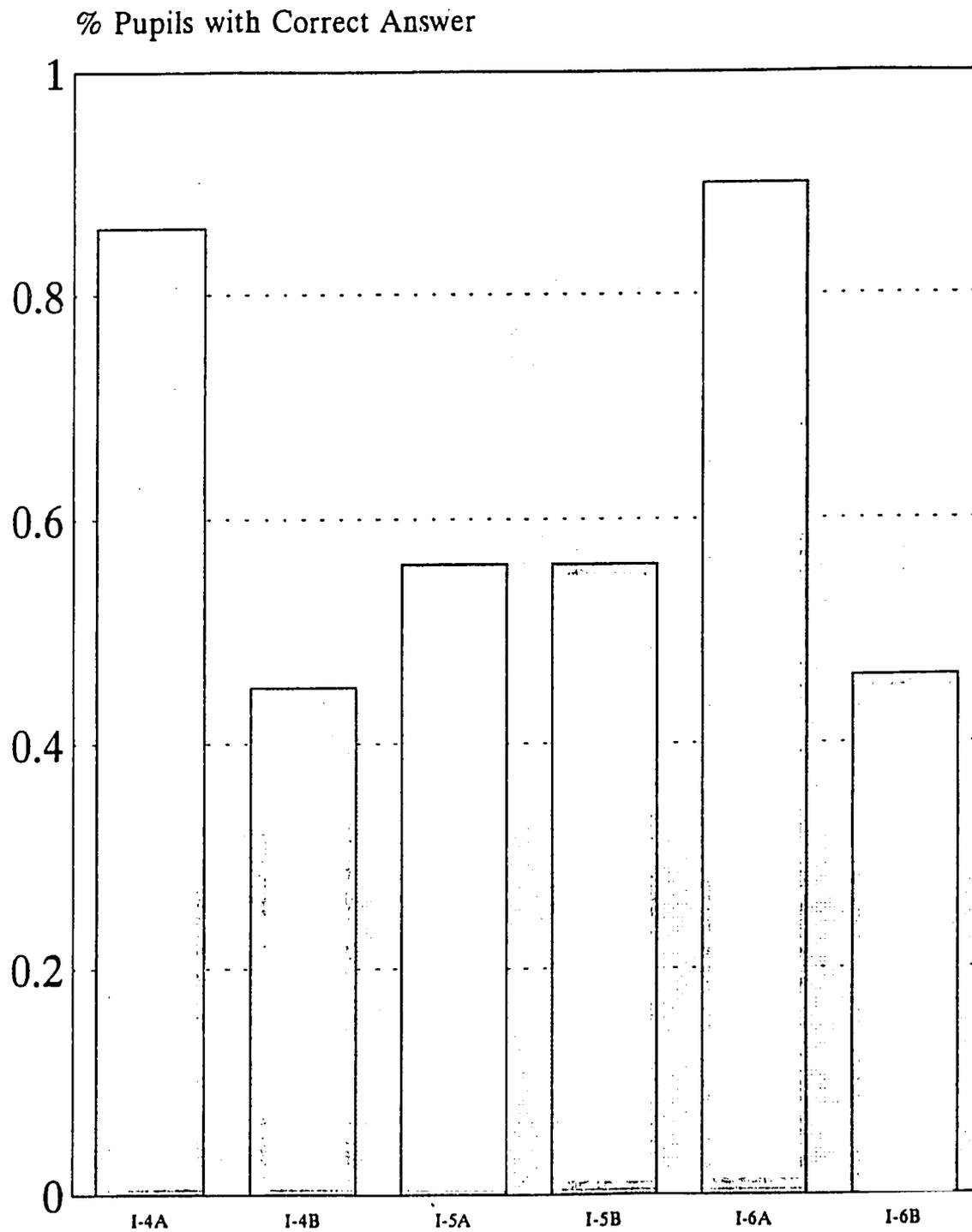
N of cases: 565 2-tailed Signif: * - .01 ** - .001

Correlations: Q6CPOINT Q7POINT Q8POINT Q9POINT Q10POINT Q11POINT Q12POINT

Q1POINT	.3573**	.5622**	.3416**	.3644**	.4521**	.5728**	.5473**
Q2POINT	.3679**	.7024**	.3517**	.5343**	.4447**	.6654**	.6584**
Q3APOINT	.3637**	.5784**	.3463**	.4556**	.4292**	.5581**	.5559**
Q3BPOINT	.3410**	.4503**	.3388**	.4018**	.3891**	.4480**	.4503**
Q4POINT	.4081**	.6769**	.3922**	.5034**	.4995**	.6761**	.6769**
Q5POINT	.2694**	.4188**	.3348**	.4053**	.2739**	.4062**	.4188**
Q6APOINT	.5793**	.5770**	.3174**	.4225**	.4892**	.6097**	.6142**
Q6BPOINT	.6278**	.5639**	.3782**	.4586**	.4386**	.5733**	.5789**
Q6CPOINT	1.0000	.4372**	.3567**	.4261**	.3951**	.4827**	.4615**
Q7POINT	.4372**	1.0000	.4318**	.5943**	.5059**	.8532**	.8557**
Q8POINT	.3567**	.4318**	1.0000	.4363**	.4171**	.4116**	.4152**
Q9POINT	.4261**	.5943**	.4363**	1.0000	.4861**	.5900**	.6091**
Q10POINT	.3951**	.5059**	.4171**	.4861**	1.0000	.5146**	.5059**
Q11POINT	.4827**	.8532**	.4116**	.5900**	.5146**	1.0000	.8683**
Q12POINT	.4615**	.8557**	.4152**	.6091**	.5059**	.8683**	1.0000

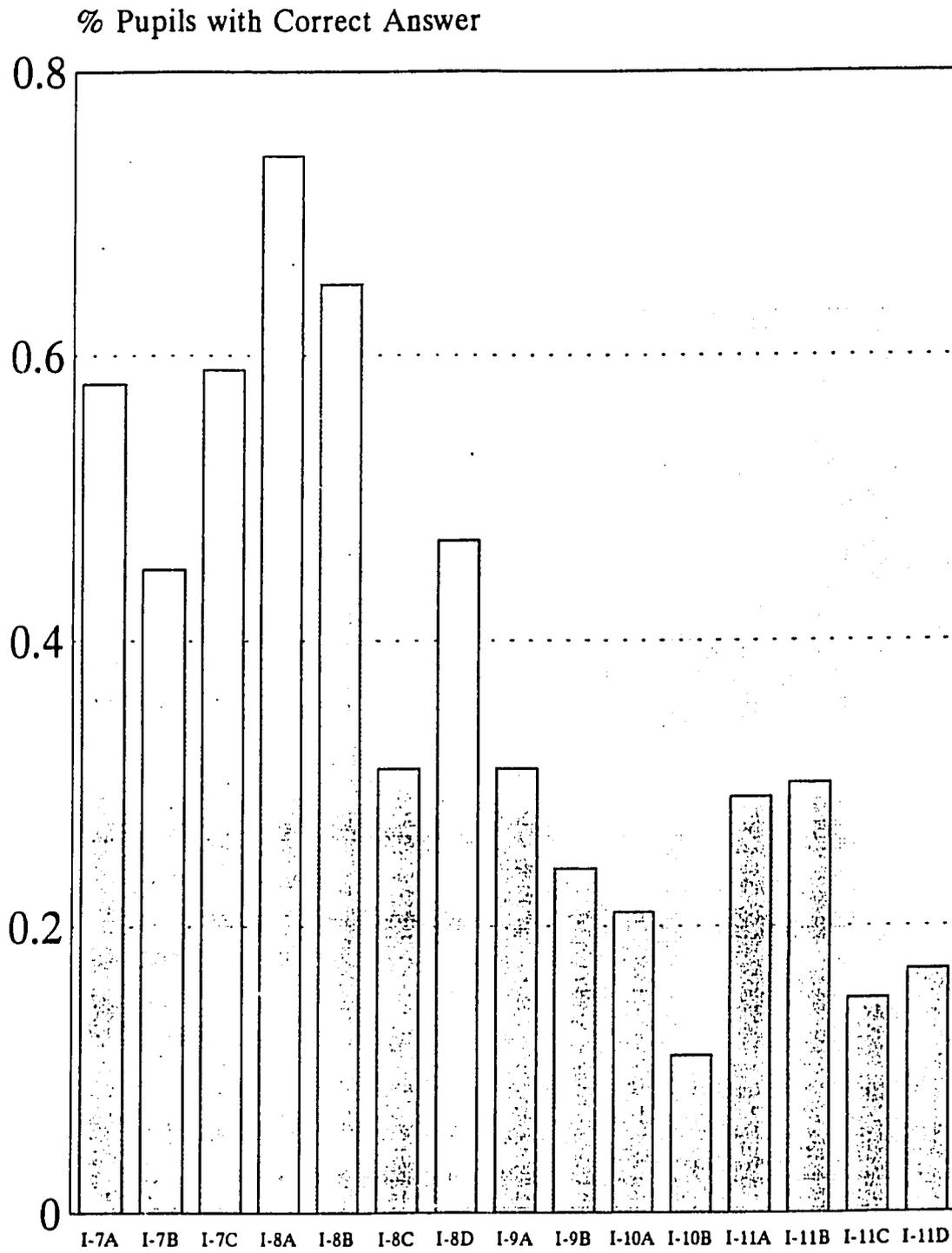
N of cases: 565 2-tailed Signif: * - .01 ** - .001

Figure 1.8
Maths Measurement Segment - Item Difficulty



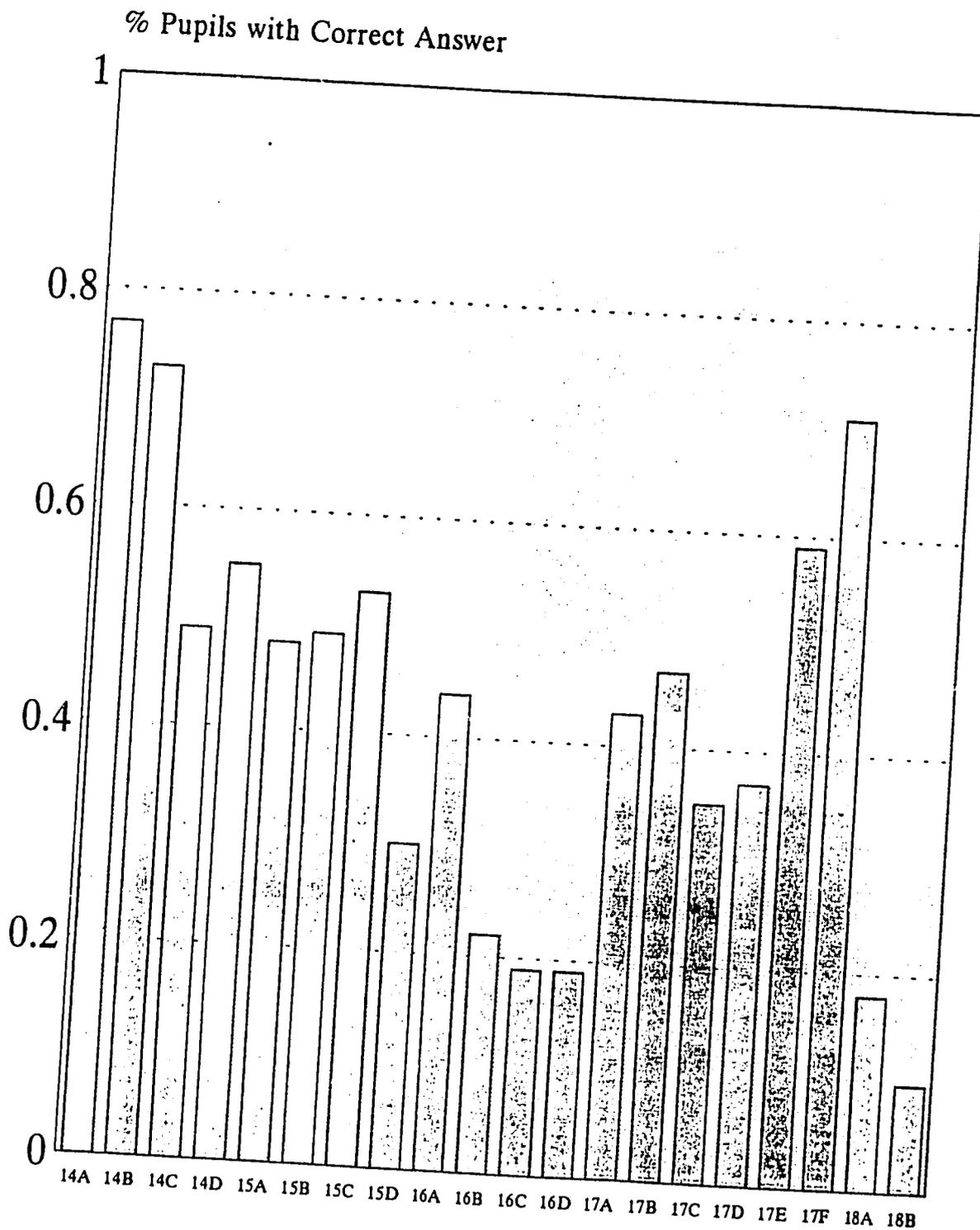
Maths-7 pupils only [n=3303]

Figure 1.9 Maths Time-Dates Segment - Item Difficulty



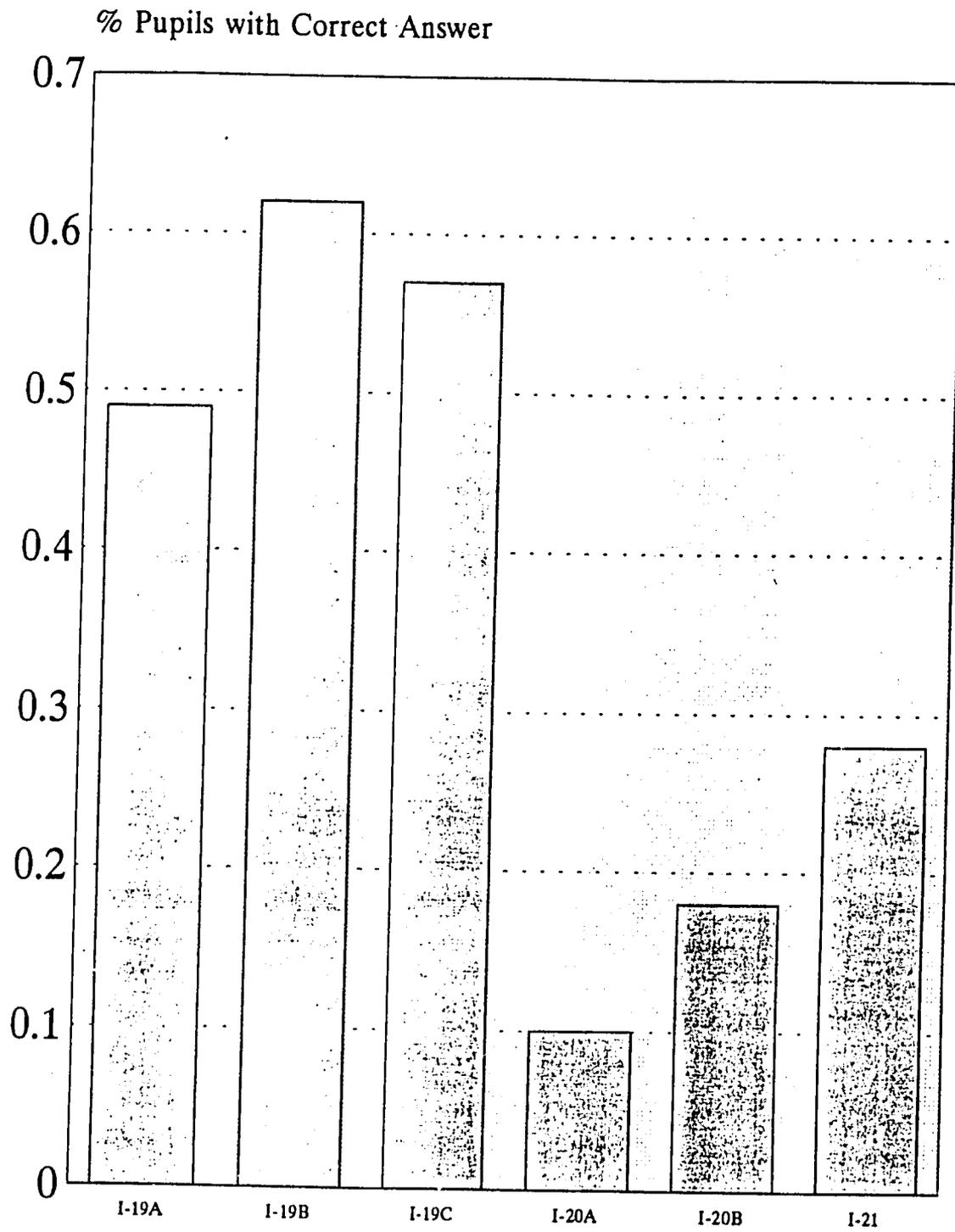
Maths-7 pupils only [n=3303]

Figure 1.10
Maths Calculations Segment - Item Difficulty



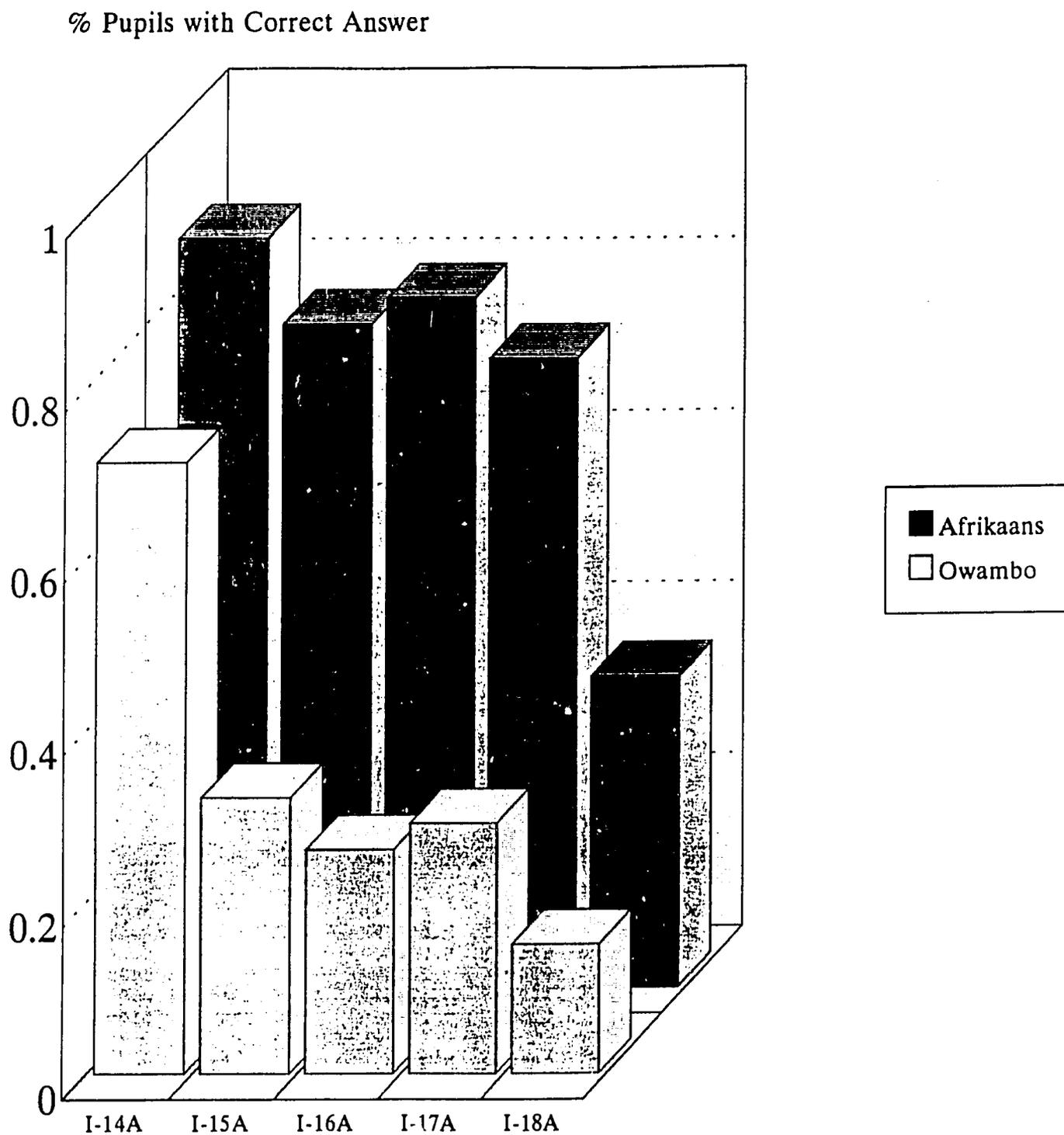
is-7 pupils only [n=3303]

Figure 1.11
Maths Geometry Segment - Item Difficulty



Maths-7 pupils only [n=3303]

Figure 1.12
Maths Calculation Segment by Pupil Home Language



Maths-7 pupils: Afrikaans home language (n=504); All Owambo home language (n=1314)

Table 1.4

MATHS-7 EXAM -- INTER-ITEM CROSS-TABS AND CORRELATIONS
For Q4A thru Q6B / For Q19A thru Q21

Count		Q6B		Row Total
		.00	1.00	
Q6A	.00	238	102	340 10.3
	1.00	1539	1424	2963 89.7
Column Total		1777 53.8	1526 46.2	3303 100.0

Correlations:	Q4A	Q4B	Q5A	Q5B	Q6A	Q6B
Q4A	1.0000	.1556**	-.0029	.1022**	.0919**	.1240**
Q4B	.1556**	1.0000	.2888**	.3339**	.0542*	.4453**
Q5A	-.0029	.2888**	1.0000	.2084**	-.0011	.2922**
Q5B	.1022**	.3339**	.2084**	1.0000	.0459*	.3730**
Q6A	.0919**	.0542*	-.0011	.0459*	1.0000	.1101**
Q6B	.1240**	.4453**	.2922**	.3730**	.1101**	1.0000

N of cases: 3303 2-tailed Signif: * - .01 ** - .001

Correlations:	Q19A	Q19B	Q19C	Q20A	Q20B	Q21
Q19A	1.0000	.3671**	.4304**	.1117**	.1063**	.1543**
Q19B	.3671**	1.0000	.6515**	.1934**	.1479**	.1729**
Q19C	.4304**	.6515**	1.0000	.2004**	.1442**	.1844**
Q20A	.1117**	.1934**	.2004**	1.0000	.4825**	.1287**
Q20B	.1063**	.1479**	.1442**	.4825**	1.0000	.1694**
Q21	.1543**	.1729**	.1844**	.1287**	.1694**	1.0000

N of cases: 3303 2-tailed Signif: * - .01 ** - .001

Table 1.5

MATHS-7 - ITEM DIFFICULTY BY HOME-LANGUAGE GROUP

Count	AFRIKAAN HOME LANG.		Row Total
	.00	1.00	
.00	699	65	764 23.1
1.00	2100	439	2539 76.9
Column Total	2799 84.7	504 15.3	3303 100.0

Table 1.6

MATHS-7 - ITEM DIFFICULTY BY HOME-LANGUAGE GROUP
AND PUPIL GENDER

Correlations:	Q19A	Q19B	Q19C	Q20A	Q20B	Q21
AFRIKAAN	.2394**	.2551**	.2824**	.3112**	.2912**	.2848**
SEX	-.0631**	-.0735**	-.0490*	-.0049	-.0091	-.1039**
N of cases:	3303	2-tailed Signif: * - .01 ** - .001				

[Review] Table 1.7A

MATHS-7 -- INTER-ITEM CORRELATIONS FOR "DATES & TIME"

Correlations:	Q7A	Q7B	Q7C	Q8A	Q8B	Q8C	Q8D	Q9A
Q7A	1.0000							
Q7B	.3927**	1.0000						
Q7C	-.0388	.2118**	1.0000					
Q8A	.0481*	.0043	.0894**	1.0000				
Q8B	.0093	-.0156	.0744**	.5077**	1.0000			
Q8C	.0518*	.0713**	.1581**	.1570**	.1427**	1.0000		
Q8D	.0628**	.0315	.1514**	.1332**	.1483**	.3540**	1.0000	
Q9A	.0836**	.0928**	.1412**	.1200**	.1420**	.2400**	.2669**	1.0000
Q9B	.0782**	.0630**	.1333**	.1345**	.1544**	.2206**	.2566**	.4926**
Q10A	.0710**	.0685**	.1631**	.1282**	.1465**	.2490**	.3029**	.3102**
Q10B	.0844**	.0997**	.1733**	.1241**	.1015**	.2440**	.2272**	.3137**
Q11A	.0758**	.0442	.0627**	.1156**	.0980**	.1581**	.1646**	.2456**
Q11B	.0807**	.0646**	.0796**	.0871**	.0708**	.1344**	.1458**	.1896**
Q11C	.1152**	.1047**	.1881**	.1205**	.1387**	.2698**	.2255**	.2454**
Q11D	.1162**	.0850**	.1631**	.1443**	.1330**	.2983**	.2358**	.2764**

N of cases: 3303

2-tailed Signif: * - .01 ** - .001

[New Index] Table 1.7B

MATHS-7 -- TWO "DATES" INDICES AND ONE "MEASURES" INDEX

COMPUTE MEASURE1 = (Q4B+Q5B+Q6B)/3.
COMPUTE DATES1 = (Q8A+Q8B)/2.
COMPUTE DATES2 = (Q9A+Q9B)/2.

CORRELATIONS variables = MEASURE1 with DATES1 DATES2.

Correlations: DATES1 DATES2

MEASURE1 .1927** .4449**

N of cases: 3303 2-tailed Signif: * - .01 ** - .001

Table 1.8

MATHS-7
DO INTER-ITEM CORRELATIONS VARY BY LANGUAGE GROUP?

*ALL
D'WAMBO*

PROCESS IF (HLALL=1).
CORRELATIONS variables = Q4A to Q6B.

Correlations:	Q4A	Q4B	Q5A	Q5B	Q6A	Q6B
Q4A	1.0000	.0545	-.0672	.0489	.1041**	.0557
Q4B	.0545	1.0000	.2410**	.1905**	-.0512	.3551**
Q5A	-.0672	.2410**	1.0000	.0841*	-.0266	.2339**
Q5B	.0489	.1905**	.0841*	1.0000	-.0014	.2507**
Q6A	.1041**	-.0512	-.0266	-.0014	1.0000	.0152
Q6B	.0557	.3551**	.2339**	.2507**	.0152	1.0000

N of cases: 1314 2-tailed Signif: * - .01 ** - .001

Correlations:	MEASURE1	DATES1	DATES2
MEASURE1	1.0000	.0682	.3260**
DATES1	.0682	1.0000	.0350
DATES2	.3260**	.0350	1.0000

N of cases: 1314 2-tailed Signif: * - .01 ** - .001

PROCESS IF (AFRIKAAN=1).
CORRELATIONS variables = Q4A to Q6B.

AFRIKAANS

Correlations:	Q4A	Q4B	Q5A	Q5B	Q6A	Q6B
Q4A	1.0000	.3170**	.0668	.0279	.0283	.2102**
Q4B	.3170**	1.0000	.1992**	.2354**	.1752**	.3555**
Q5A	.0668	.1992**	1.0000	.1398*	.0459	.2493**
Q5B	.0279	.2354**	.1398*	1.0000	.2413**	.3508**
Q6A	.0283	.1752**	.0459	.2413**	1.0000	.2818**
Q6B	.2102**	.3555**	.2493**	.3508**	.2818**	1.0000

N of cases: 504 2-tailed Signif: * - .01 ** - .001

Correlations:	MEASURE1	DATES1	DATES2
MEASURE1	1.0000	.1623**	.3023**
DATES1	.1623**	1.0000	.2611**
DATES2	.3023**	.2611**	1.0000

N of cases: 504 2-tailed Signif: * - .01 ** - .001

Table 1.9A

ENGLISH-7 -- INTER-ITEM RELIABILITY ESTIMATES
For Reading Comprehension 1

RELIABILITY ANALYSIS - SCALE (ALL)

- 1. Q1
- 2. Q2
- 3. Q3
- 4. Q4
- 5. Q5

CORRELATION MATRIX

	Q1	Q2	Q3	Q4	Q5
Q1	1.0000				
Q2	.2082	1.0000			
Q3	.0841	.1097	1.0000		
Q4	.2984	.1493	.0762	1.0000	
Q5	.1798	.2142	.1528	.1775	1.0000

OF CASES = 2776.0

ITEM-TOTAL STATISTICS

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM- TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
Q1	1.5695	1.2182	.3223	.1273	.4045
Q2	1.8015	1.2957	.2790	.0846	.4355
Q3	1.8174	1.4185	.1642	.0325	.5080
Q4	1.4654	1.2838	.2919	.1102	.4268
Q5	1.8822	1.3292	.2990	.0914	.4244

RELIABILITY COEFFICIENTS

5 ITEMS

ALPHA = .4970

STANDARDIZED ITEM ALPHA = .4970

Table 1.9B

ENGLISH-7 -- INTER-ITEM RELIABILITY ESTIMATES
For Reading Comprehension 3

RELIABILITY ANALYSIS - SCALE (ALL)

1. Q13
2. Q14
3. Q15

CORRELATION MATRIX

	Q13	Q14	Q15
Q13	1.0000		
Q14	.3044	1.0000	
Q15	.1823	.1847	1.0000

OF CASES = 2776.0

ITEM-TOTAL STATISTICS

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM- TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
Q13	.9690	.5915	.3161	.1091	.3119
Q14	.9917	.5913	.3181	.1099	.3084
Q15	.9615	.6511	.2272	.0516	.4667

RELIABILITY COEFFICIENTS

3 ITEMS

ALPHA = .4638

STANDARDIZED ITEM ALPHA = .4638

Table 1.10A

ENGLISH-7 -- INTER-ITEM CORRELATIONS
FOR LISTENING COMPREHENSION ITEMS

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM- TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
Q1AGAIN	4.1232	3.9048	.2759	.0888	.5505
Q2AGAIN	4.1920	3.7379	.3500	.1465	.5301
Q3AGAIN	4.2673	3.8053	.3020	.1191	.5432
Q4AGAIN	4.0306	3.9511	.2973	.1043	.5461
Q5AGAIN	4.5634	4.5949	-.0698	.0093	.6245
Q6AGAIN	4.2947	3.8259	.2903	.0886	.5464
Q7AGAIN	4.5666	4.0936	.2259	.0611	.5627
Q8AGAIN	4.3782	3.8778	.2708	.0962	.5517
Q9AGAIN	4.2468	3.6894	.3686	.1618	.5245
Q10AGAIN	4.4146	3.8868	.2746	.1077	.5507

ALPHA = .5805

STANDARDIZED ITEM ALPHA = .5704

CORRELATION MATRIX

	Q1AGAIN Q7AGAIN	Q2AGAIN	Q3AGAIN	Q4AGAIN	Q5AGAIN
Q6AGAIN					
Q1AGAIN	1.0000				
Q2AGAIN	.2092	1.0000			
Q3AGAIN	.1165	.2606	1.0000		
Q4AGAIN	.1413	.2169	.1828	1.0000	
Q5AGAIN	-.0247	-.0298	-.0542	-.0399	1.0000
Q6AGAIN	.1277	.1448	.1665	.1248	-.0006
1.0000					
Q7AGAIN	.1223	.1088	.1364	.0992	-.0209
.1236	1.0000				
Q8AGAIN	.1219	.1815	.1186	.1735	-.0733
.1494	.1718				
Q9AGAIN	.1950	.1834	.1857	.2000	-.0261
.1929	.1009				
Q10AGAIN	.1287	.1421	.1228	.1129	-.0432
.1633	.0976				
	Q8AGAIN	Q9AGAIN	Q10AGAIN		
Q8AGAIN	1.0000				
Q9AGAIN	.1671	1.0000			
Q10AGAIN	.1119	.2843	1.0000		

Table 1.10B

ENGLISH-7 -- INTER-ITEM RELIABILITIES
FOR LISTENING COMPREHENSION ITEMS

ITEM-TOTAL STATISTICS

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM- TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
Q2AGAIN	1.0587	.5908	.2884	.0868	.3133
Q3AGAIN	1.1340	.5795	.2898	.0876	.3100
Q9AGAIN	1.1135	.6188	.2325	.0541	.4134

RELIABILITY COEFFICIENTS 3 ITEMS

ALPHA = .4434 STANDARDIZED ITEM ALPHA = .4436

Table 1.11

ENGLISH-7 -- HIGHER ALPHA RELIABILITY
WITH ALL READING COMPREHENSION

RELIABILITY ANALYSIS - SCALE (ALL)

- 1. Q1
- 2. Q2
- 3. Q3
- 4. Q4
- 5. Q5
- 6. Q6
- 7. Q7
- 8. Q8
- 9. Q9
- 10. Q10
- 11. Q11
- 12. Q13
- 13. Q14
- 14. Q15

ITEM-TOTAL STATISTICS

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM- TOTAL CORRELATION	ALPHA IF ITEM DELETED
Q1	4.9669	6.5200	.3372	.6099
Q2	5.1988	6.6192	.3212	.6131
Q3	5.2147	6.9305	.1931	.6334
Q4	4.8628	6.5516	.3513	.6082
Q5	5.2795	6.6044	.3707	.6066
Q6	5.2460	6.8767	.2276	.6279
Q7	5.0310	6.7731	.2293	.6283
Q8	5.1441	6.9371	.1736	.6371
Q9	5.2529	6.5104	.3971	.6018
Q10	5.2233	7.9796	-.2196	.6921
Q11	5.3545	6.7608	.3595	.6107
Q13	5.0393	6.3599	.4005	.5987
Q14	5.0620	6.4091	.3805	.6023
Q15	5.0317	6.7017	.2580	.6234

RELIABILITY COEFFICIENTS

N OF CASES = 2776.0

N OF ITEMS = 14

ALPHA = .6395

TABLES AND FIGURES FOR WORKSHOP 2

Table 2.1

3 METHODS FOR CALCULATING TOTAL ENGLISH-7 [TES] SCORES

METHOD 1 [ENGTOT1]

Assign a value of 0 or 1 for incorrect or correct answers, respectively. Simply add-up these values for all exam items.

METHOD 2 [ENGTOT2]

Assign 0's and 1's. Then **exclude** exam items that were too difficult or too easy for pupils to answer, using less than 25% correct or more than 75% correct as cut-off points.

METHOD 3 [ENGTOT3]

Assign variable points to correct answers, based on difficulty and perceived importance of the item.

It turns out... that for all pupils (not disaggregating by language groups) the three methods are highly correlated. Turn to Table 2.2

```
COMPUTE engtot3=(Q1*.5)+(Q2*.5)+Q3+(Q4*.5)+Q5+q6+q7  
-(q8*2)+(q9*2)+(q10*2)+(q11*2)+(q12a*.5)+(q12b*.5)+(q12c*.5)+(q12d*.5)  
-(q12e*.5)+(q12f*.5)  
-(q12g*.5)+(q12h*.5)+(q12i*.5)  
-(q13*.5)+(q14*.5)+q15+(q1again*4)+(q2again*4)+(q3again*4)  
-(q4again*4)+(q5again*4)  
-(q6again*4)+(q7again*4)+(q8again*4)+(q9again*4)+(q10again*4).
```

Table 2.2

HIGH CORRELATIONS BETWEEN 3 METHODS

Correlations:	ENGTOT1	ENGTOT2	ENGTOT3
ENGTOT1	1.0000	.9866**	.9173**
ENGTOT2	.9866**	1.0000	.9105**
ENGTOT3	.9173**	.9105**	1.0000

N of cases: 1790

Figure 2.1

ENGLISH-7 - DISTRIBUTION OF TOTAL EXAM SCORES [TES]
AMONG PUPILS

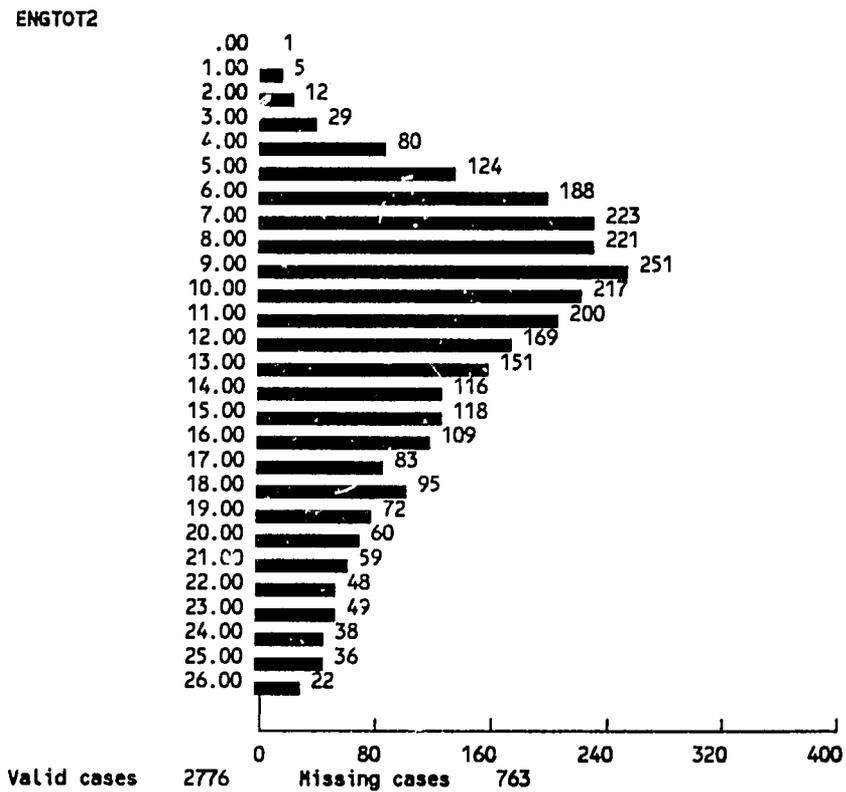


Figure 2.2

OSHIN_DONGA-7 - DISTRIBUTION OF TOTAL EXAM SCORES [TES]
AMONG PUPILS

OSHTOT1

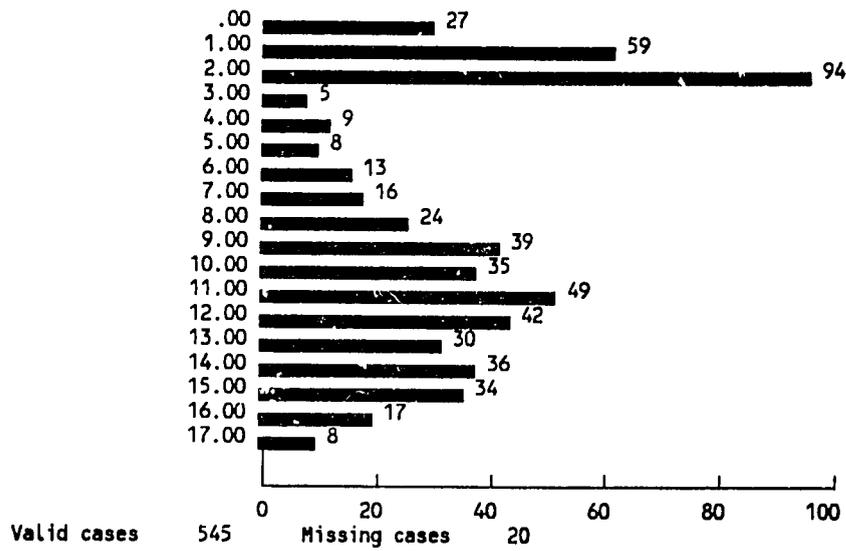


Figure 2.3

MATHS-7 - DISTRIBUTION OF TOTAL EXAM SCORES [TES] AMONG PUPILS

TOTAL

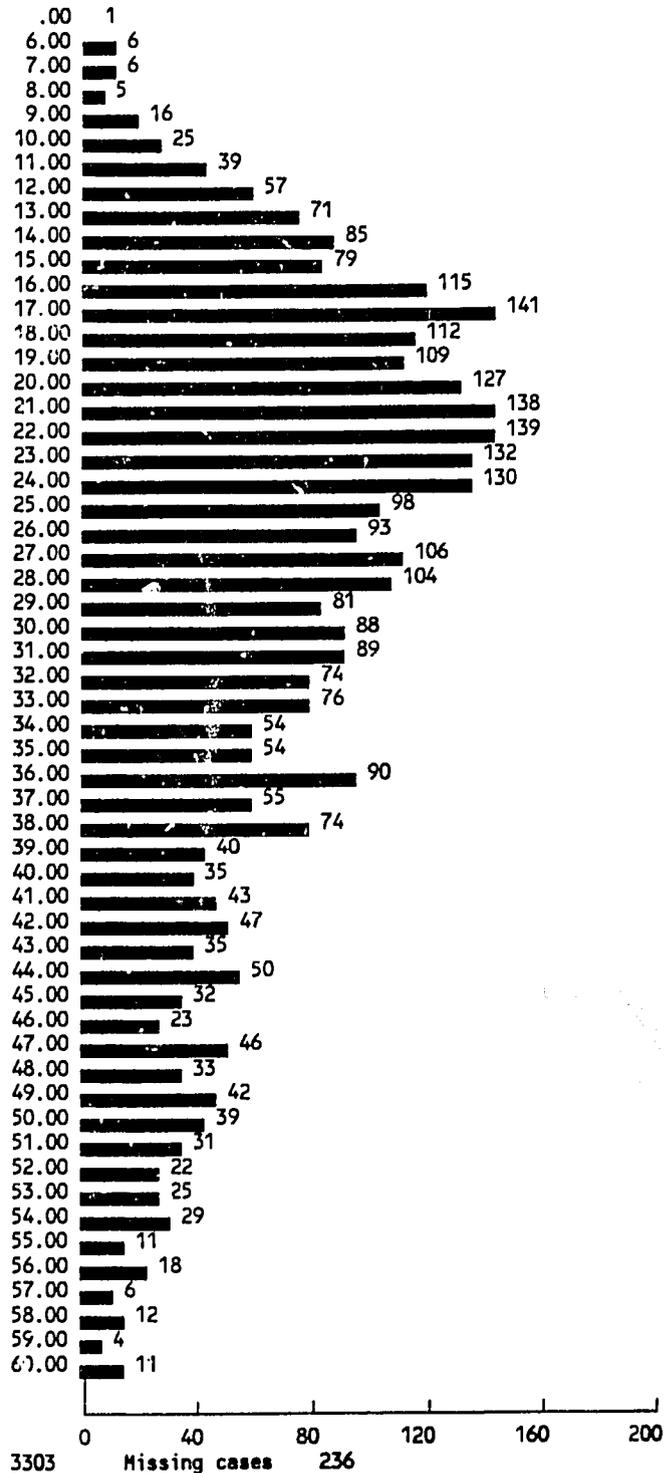
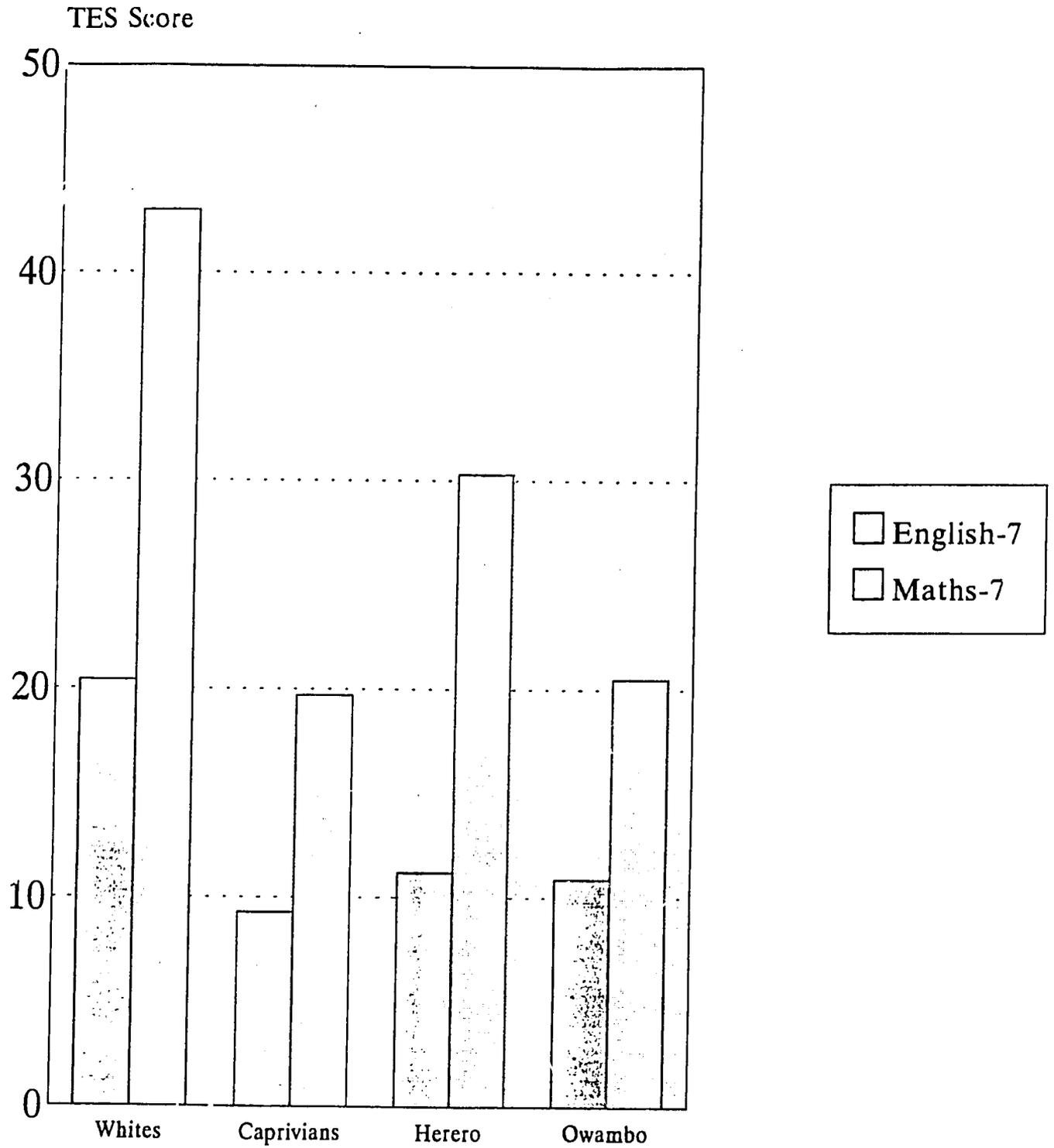
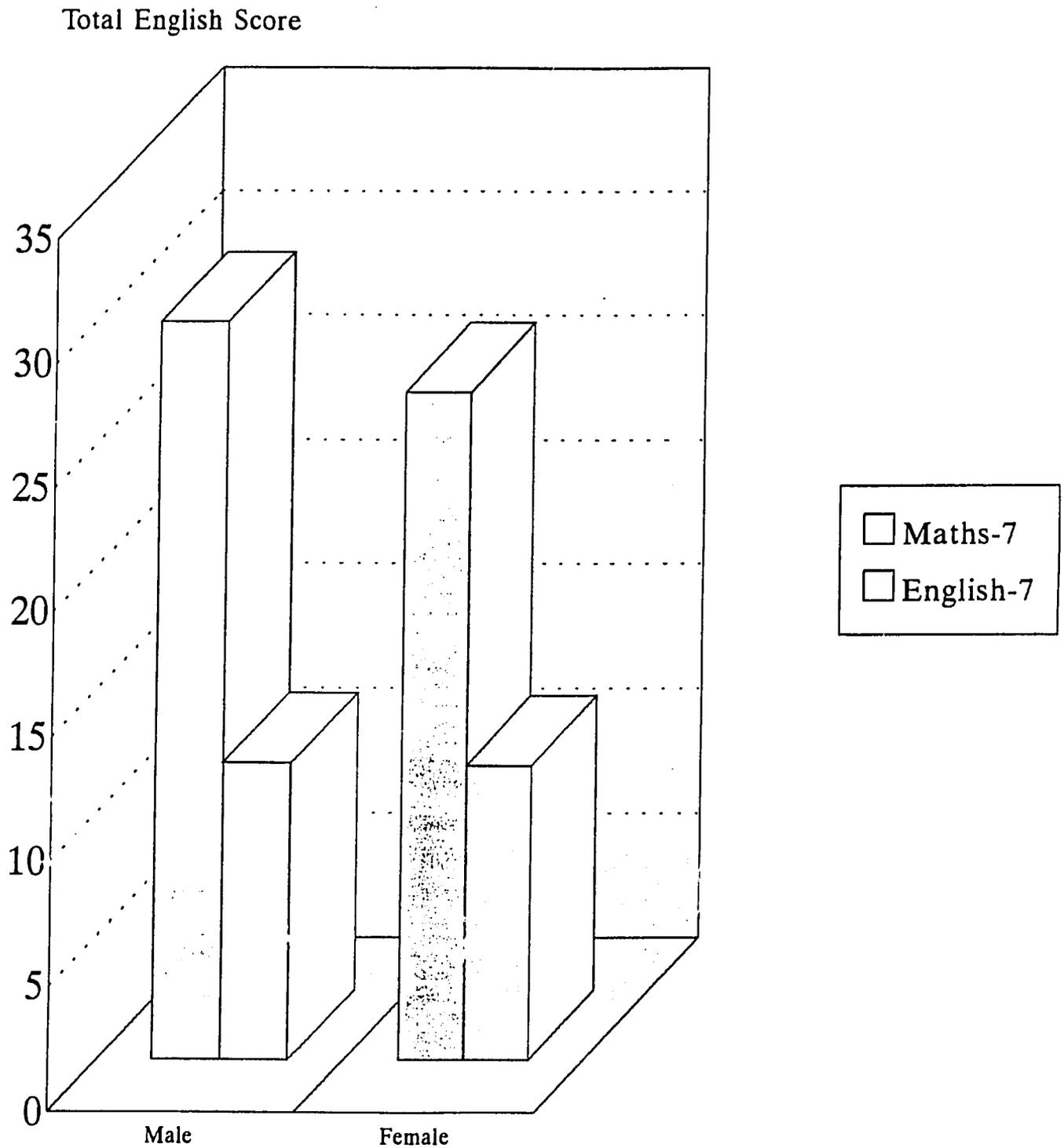


Figure 2.4
Average English-7 and Maths-7 TES Scores by Former Authority



Schools by former authority: White n=10; Caprivian n=6, Herero n=5, Owambo n=38.

Figure 2.5
Average English-7 and Maths-7 TES Scores by Pupil Gender



English data for 1238 males and 1538 females; Maths data for 1495 males and 1808 females.

FIGURE B

STARTING LEARNER-ACHIEVEMENT MODEL

**Explanatory Causes of Variation
in Learner Performance**

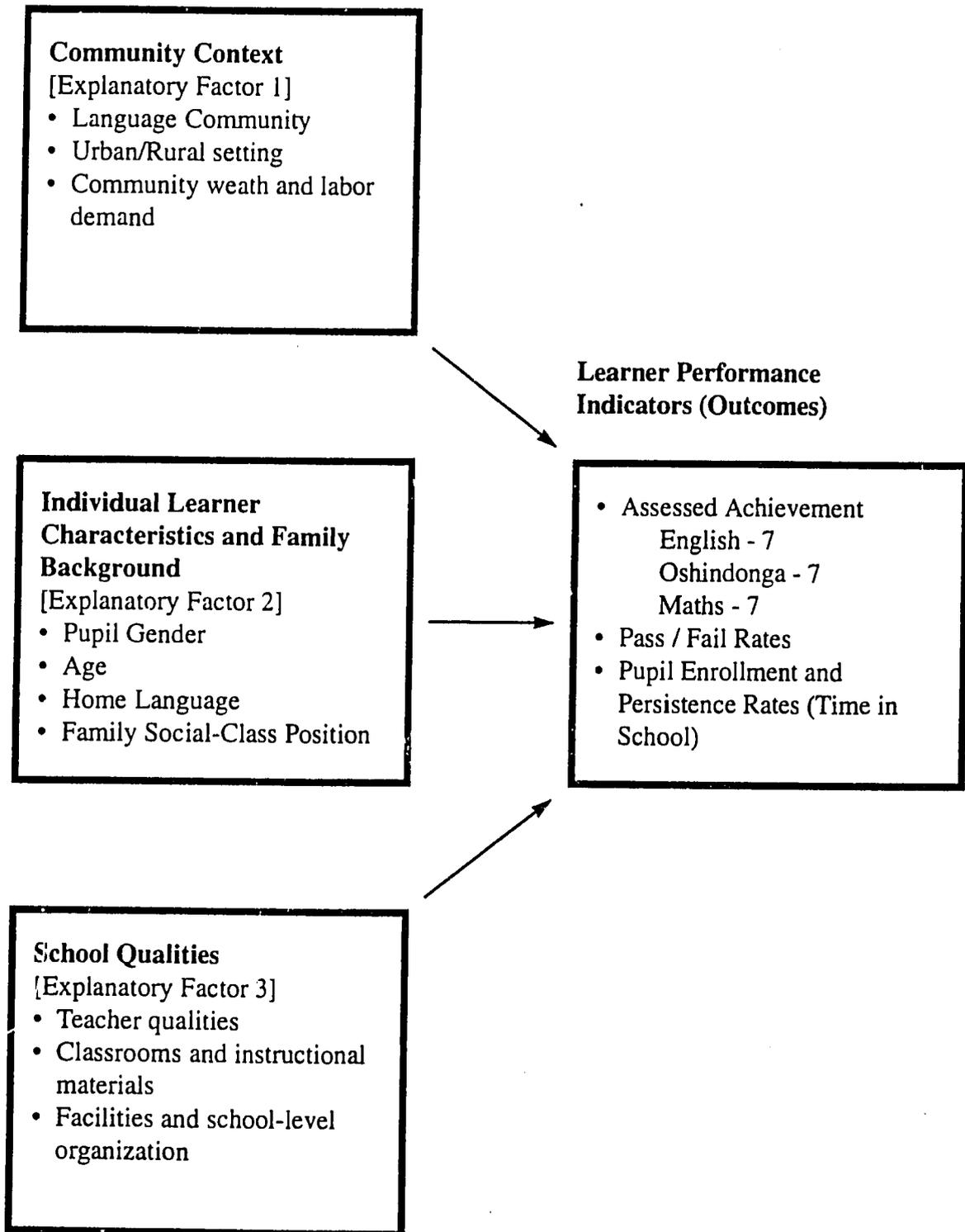


FIGURE B2

ALTERNATIVE FLOW OF CAUSALITY

**Explanatory Causes of Variation
in Learner Performance**

Community Context
[Explanatory Factor 1]
• Language Community
• Urban/Rural setting
• Community wealth and labor demand

**Individual Learner
Characteristics and Family
Background**
[Explanatory Factor 2]
• Pupil Gender
• Age
• Home Language
• Family Social-Class Position

School Qualities
[Explanatory Factor 3]
• Teacher qualities
• Classrooms and instructional materials
• Facilities and school-level organization

**Learner Performance
Indicators (Outcomes)**

• Assessed Achievement
English - 7
Oshindonga - 7
Maths - 7
• Pass / Fail Rates
• Pupil Enrollment and Persistence Rates (Time in School)

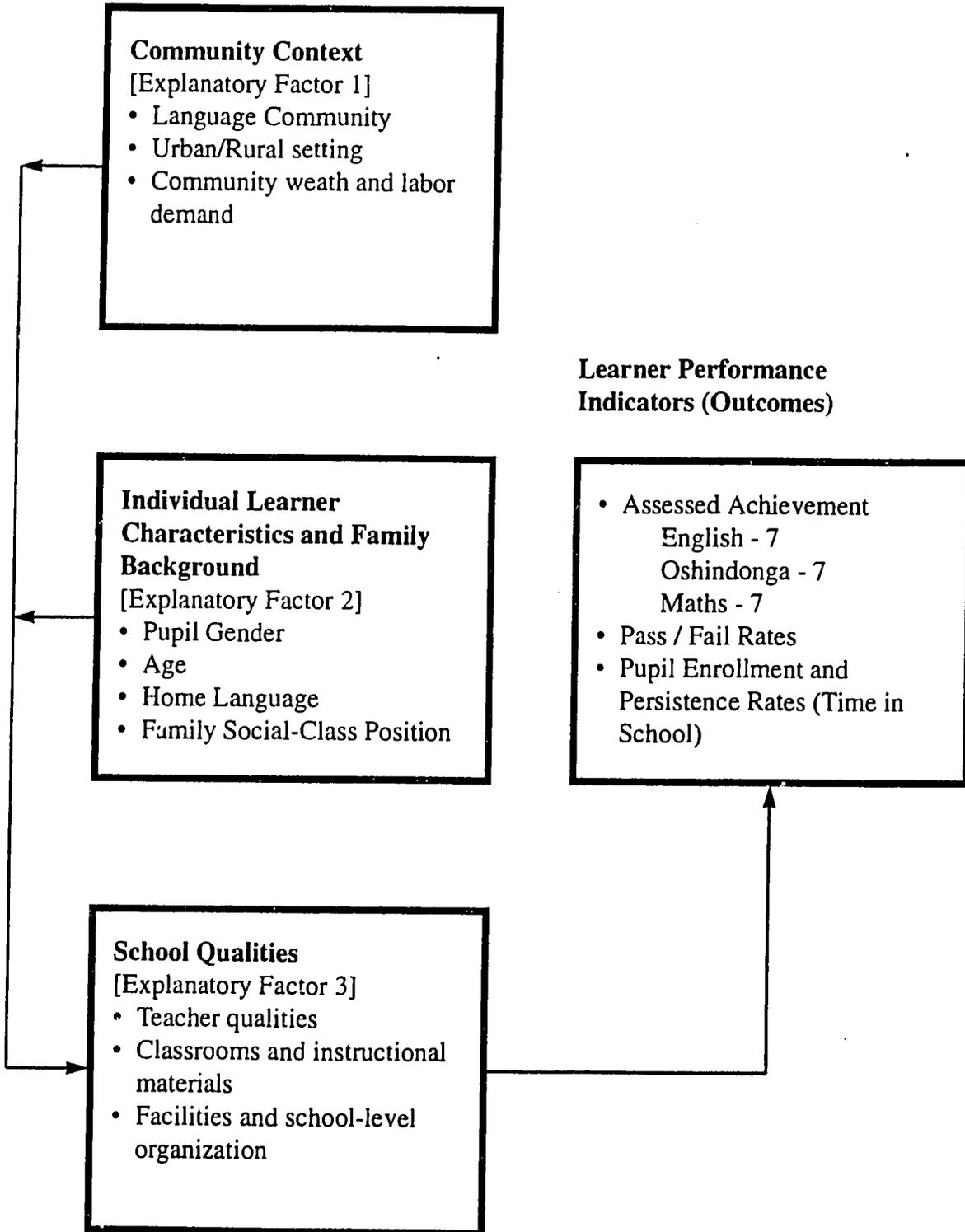
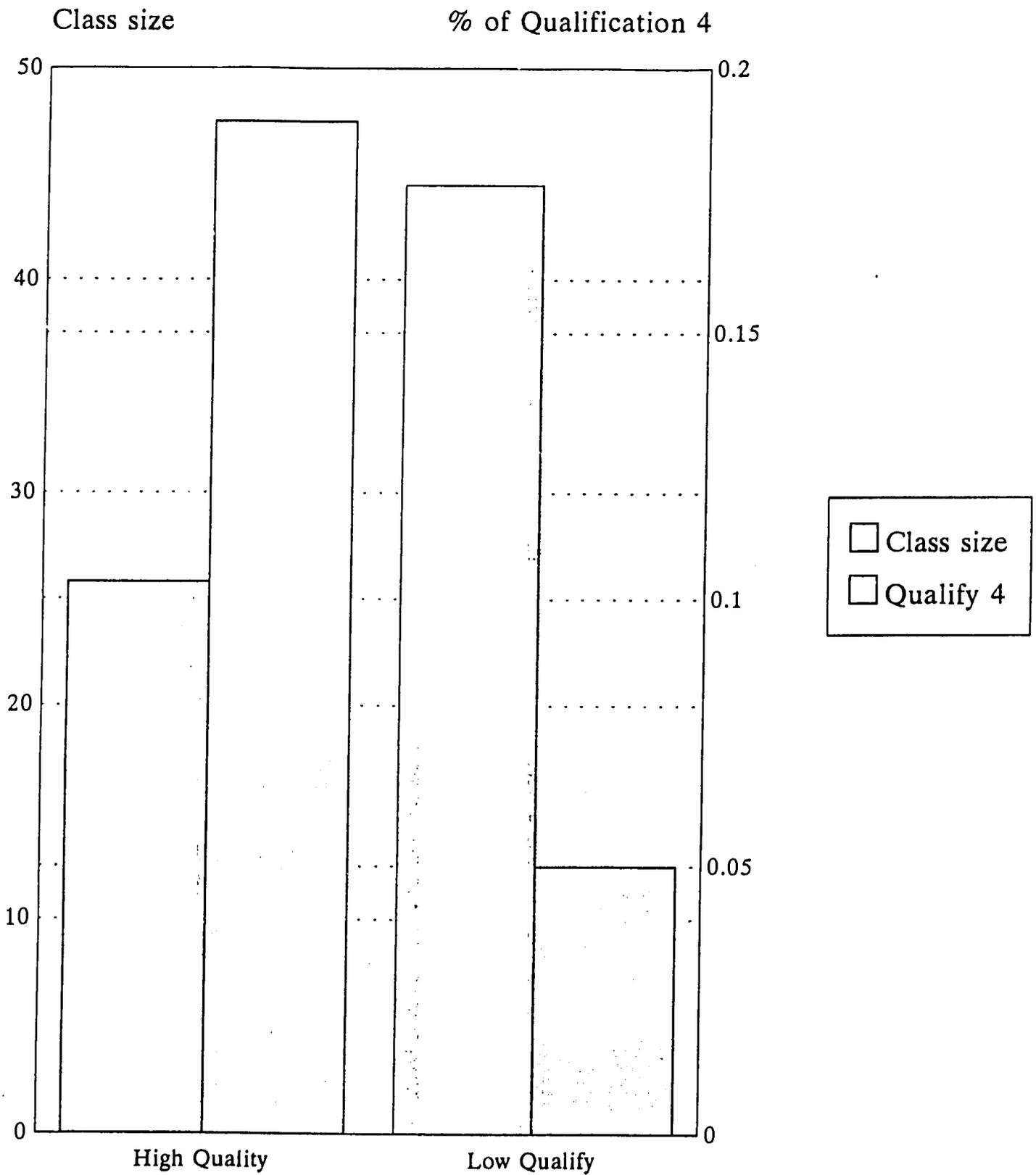


Figure 2.6
Correlated School Quality Indicators: Class Size and % of Qualification 4



High/Low school quality defined by class-size median split.

Table 2.3

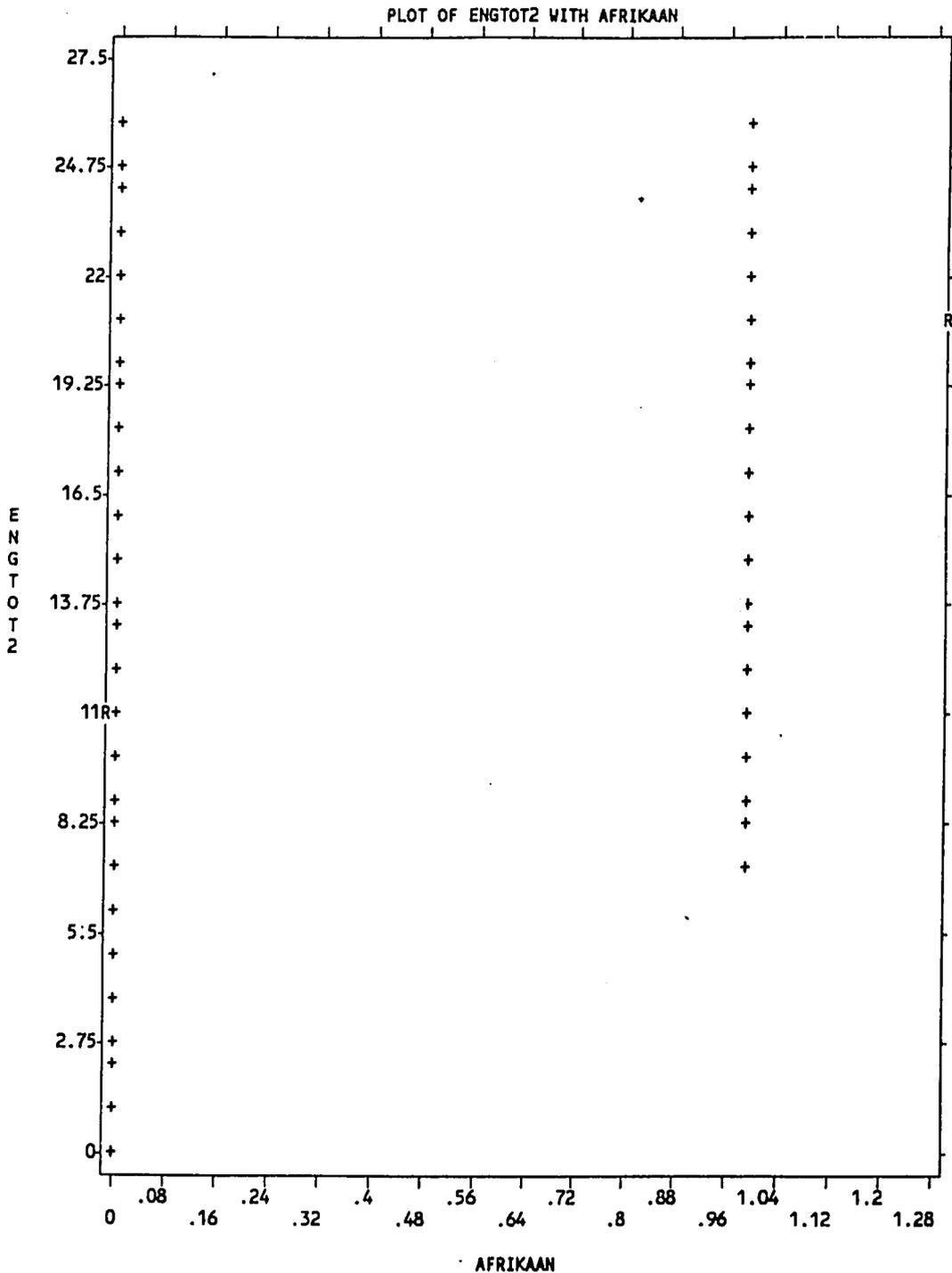
CORRELATIONS AMONG SCHOOL QUALITY MEASURES

	1. QUALIFY1	2. QUALIFY4	3. CLASIZE7	4. TEA_AGE	5. TRAD_CLASS
1. QUALIFY 1	1.00				
2. QUALIFY 4	-.55	1.00			
3. CLASIZE7	.19	-.35	1.00		
4. TEA_AGE	-.26	.44	-.25	1.00	
5. TRAD_CLASS	.08	-.25	.30	-.27	1.00
6. %_TMATH	-.27	.44	-.25	.26	-.17

School-level data [Level 2] $n = 95$ -136 schools.

Figure 2.7

PLOT OF ASSOCIATION BETWEEN AFRIKAANS HOME LANGUAGE AND ENGLISH-7 TES SCORE



2775 cases plotted. Regression statistics of ENGTOT2 on AFRIKAAN:
Correlation .50498 R Squared .25500 S.E. of Est 4.69893 Sig. .0000
Intercept(S.E.) 10.73425(.09568) Slope(S.E.) 8.15005(.26454)

Figure 2.8

PLOT OF ASSOCIATION BETWEEN ALL-OWAMBO HOME LANGUAGE AND ENGLISH-7 TES SCORE

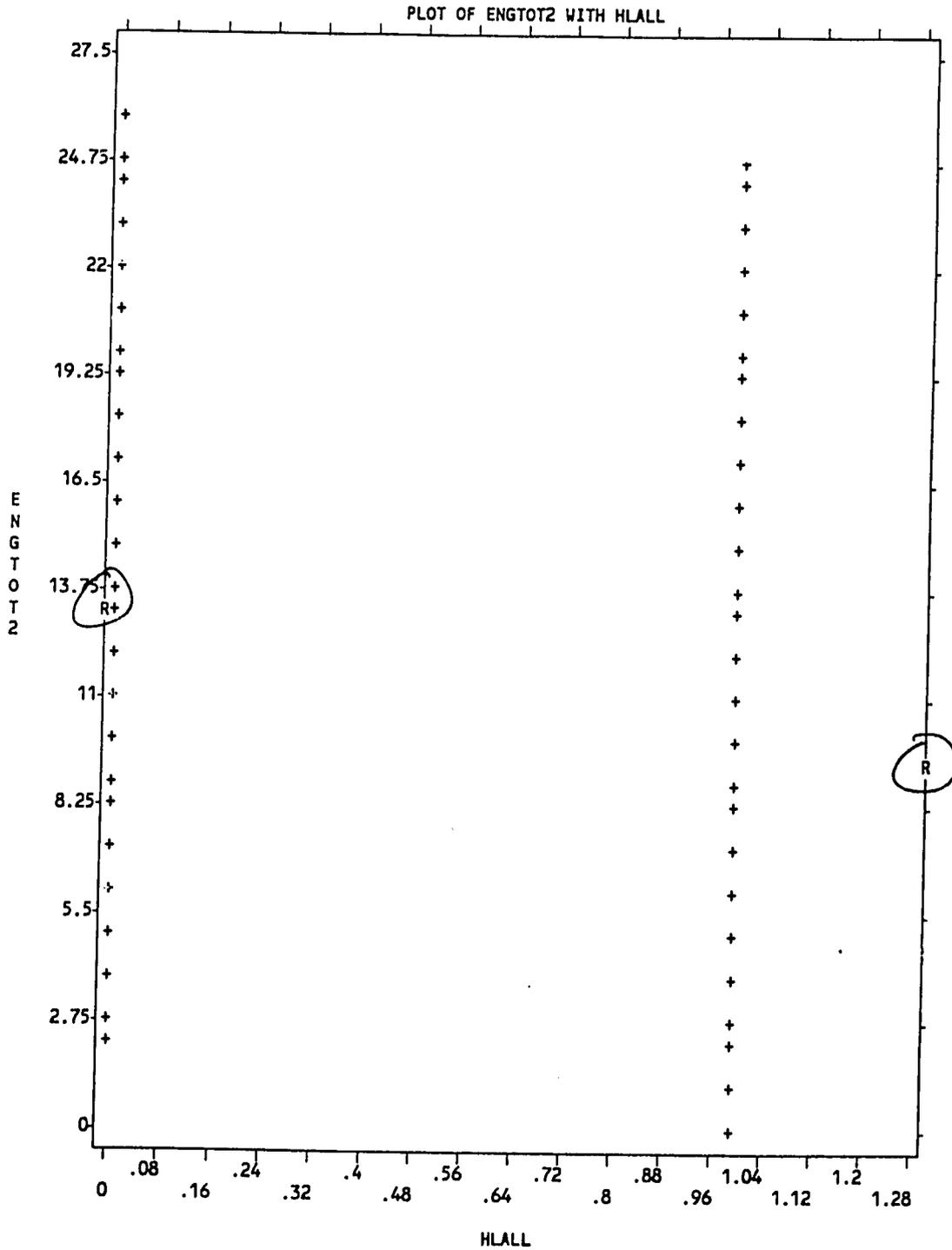
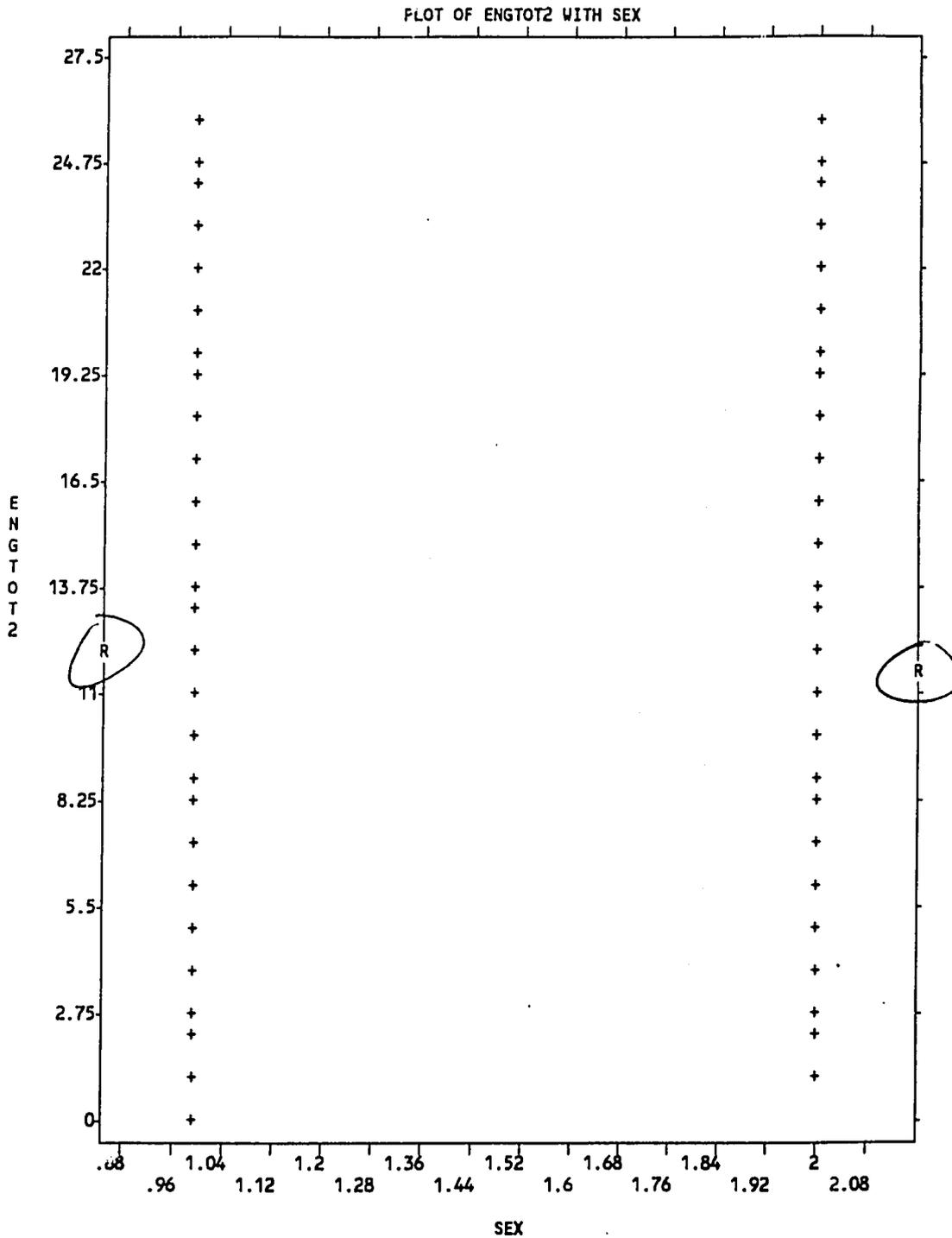


Figure 2.9

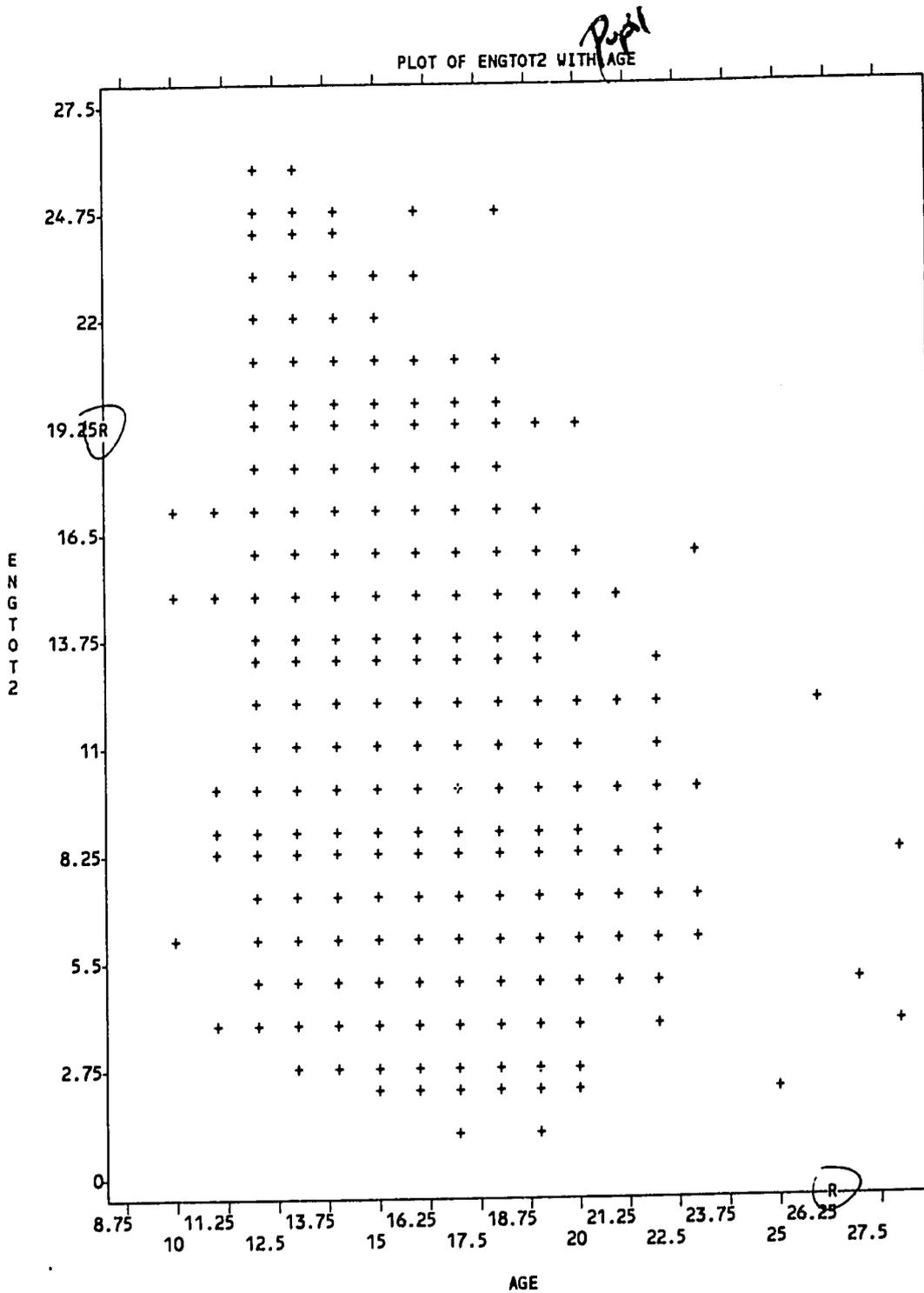
PLOT OF ASSOCIATION BETWEEN PUPIL GENDER AND ENGLISH-7 TES SCORE



2776 cases plotted. Regression statistics of ENGTOT2 on SEX:
Correlation $-.00952$ R Squared $.00009$ S.E. of Est 5.44505 Sig. $.6162$
Intercept(S.E.) $11.96531(.33922)$ Slope(S.E.) $-.10424(.20791)$

Figure 2.10

PLOT OF ASSOCIATION BETWEEN PUPIL AGE
AND ENGLISH-7 TES SCORE



2775 cases plotted. Regression statistics of ENGTOT2 on AGE:
 Correlation $-.43752$ R Squared $.19143$ S.E. of Est 4.89318 Sig. $.0000$
 Intercept(S.E.) 28.29306 (.65008) Slope(S.E.) -1.07275 (.04187)

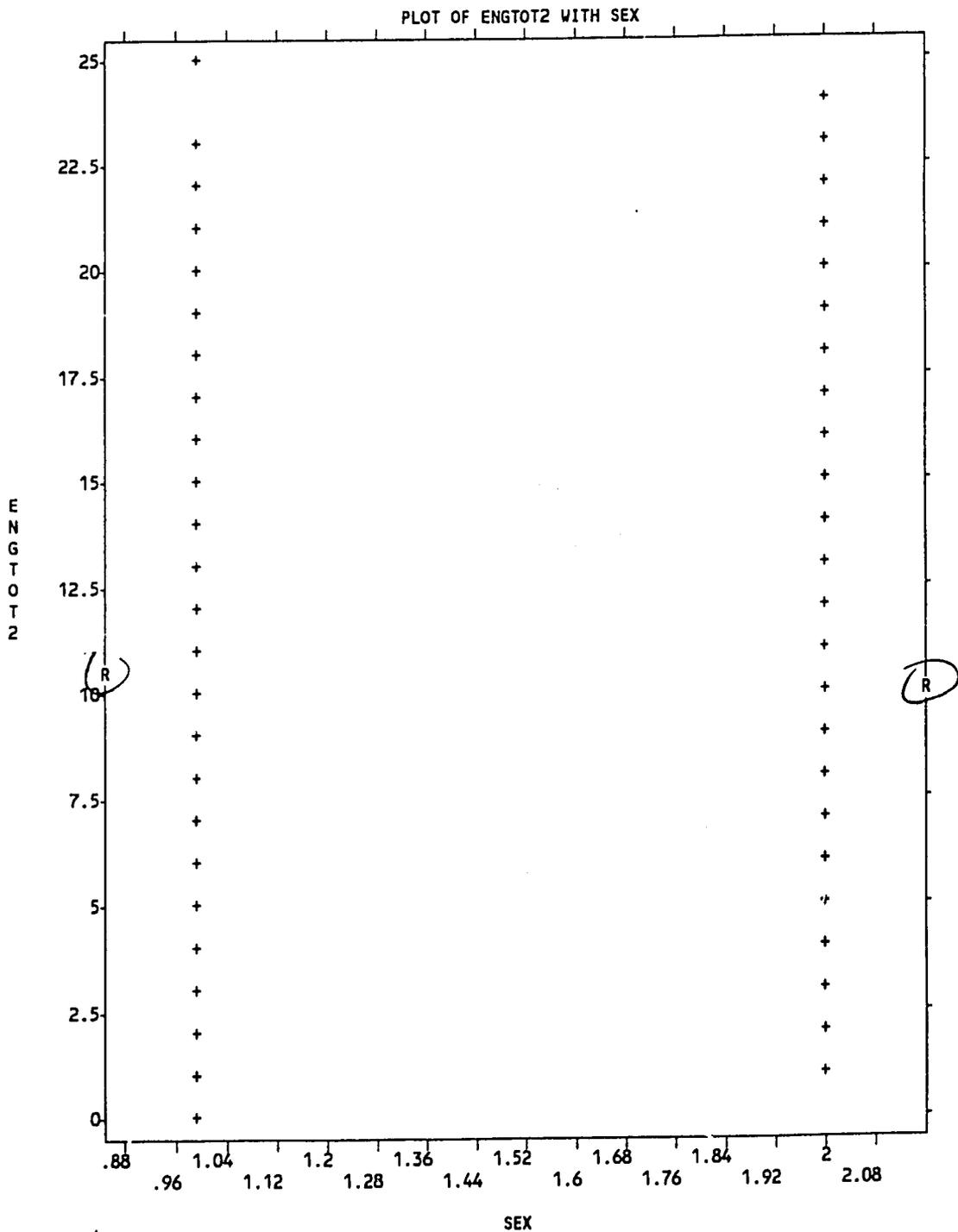
Table 2.4

CORRELATION MATRIX - ENGLISH-7 TES SCORES WITH HOME LANGUAGE, GENDER, AND AGE

Correlations:	AGE	SEX	AFRIKAAN	HLALL
• ENGTOT2	-.4375 (2775) P= .000	-.0095 (2776) P= .308	.5050 (2775) P= .000	-.2821 (2775) P= .000
• TOTAL	-.4095 (3302) P= .000	-.1208 (3303) P= .000	.5450 (3302) P= .000	-.4777 (3302) P= .000
• MATHS				

Figure 2.11-A

PLOTS OF ENGLISH-7 TES SCORE BY PUPIL GENDER
ALL OWAMBO HOME-LANGUAGE PUPILS ONLY



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Figure 2.11-B

PLOTS OF ENGLISH-7 TES SCORE BY PUPIL AGE
 ALL OWAMBO HOME-LANGUAGE PUPILS ONLY

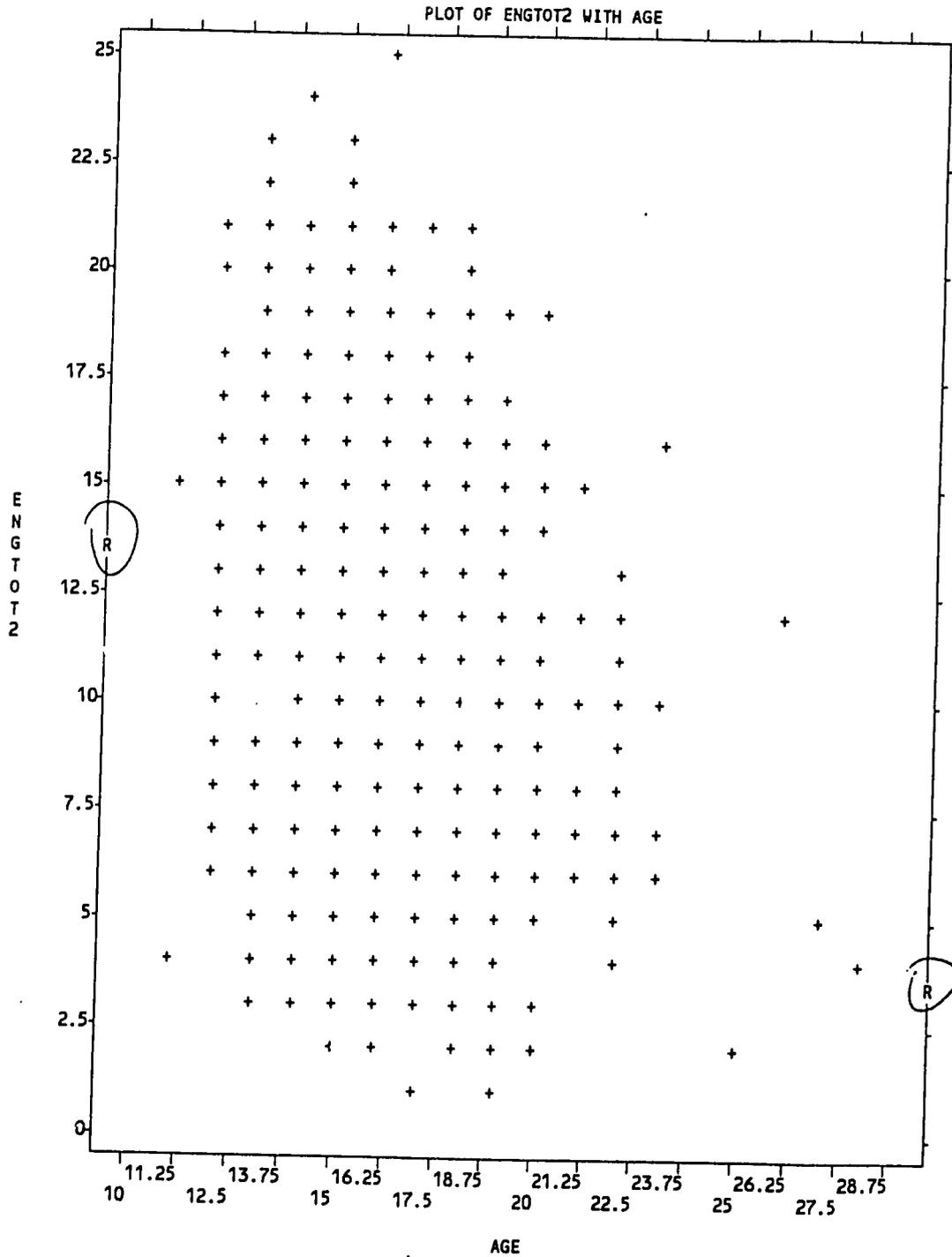


Figure 2.12-A

PLOTS OF ENGLISH-7 TES SCORE BY PUPIL GENDER
AFRIKAANS HOME-LANGUAGE PUPILS ONLY

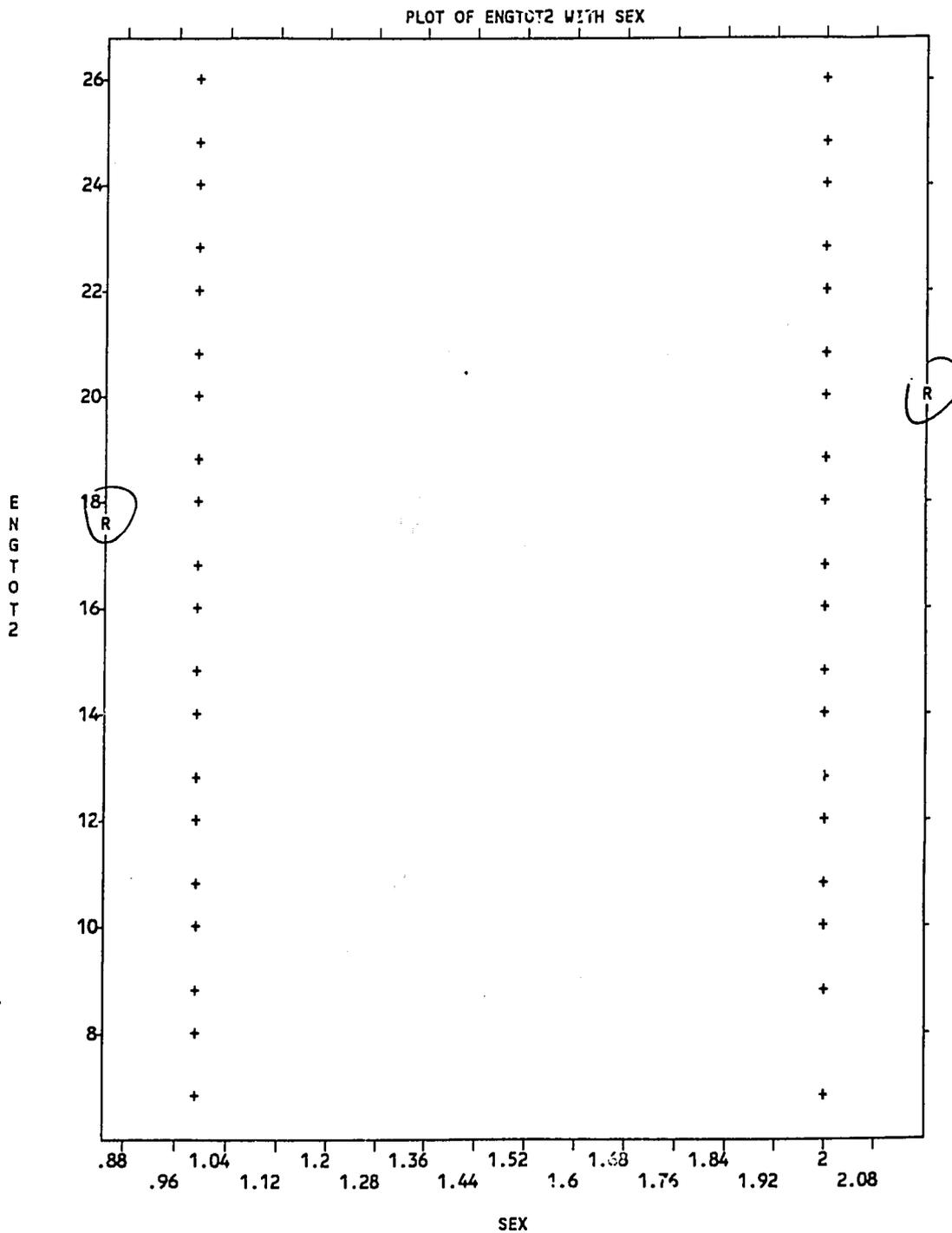
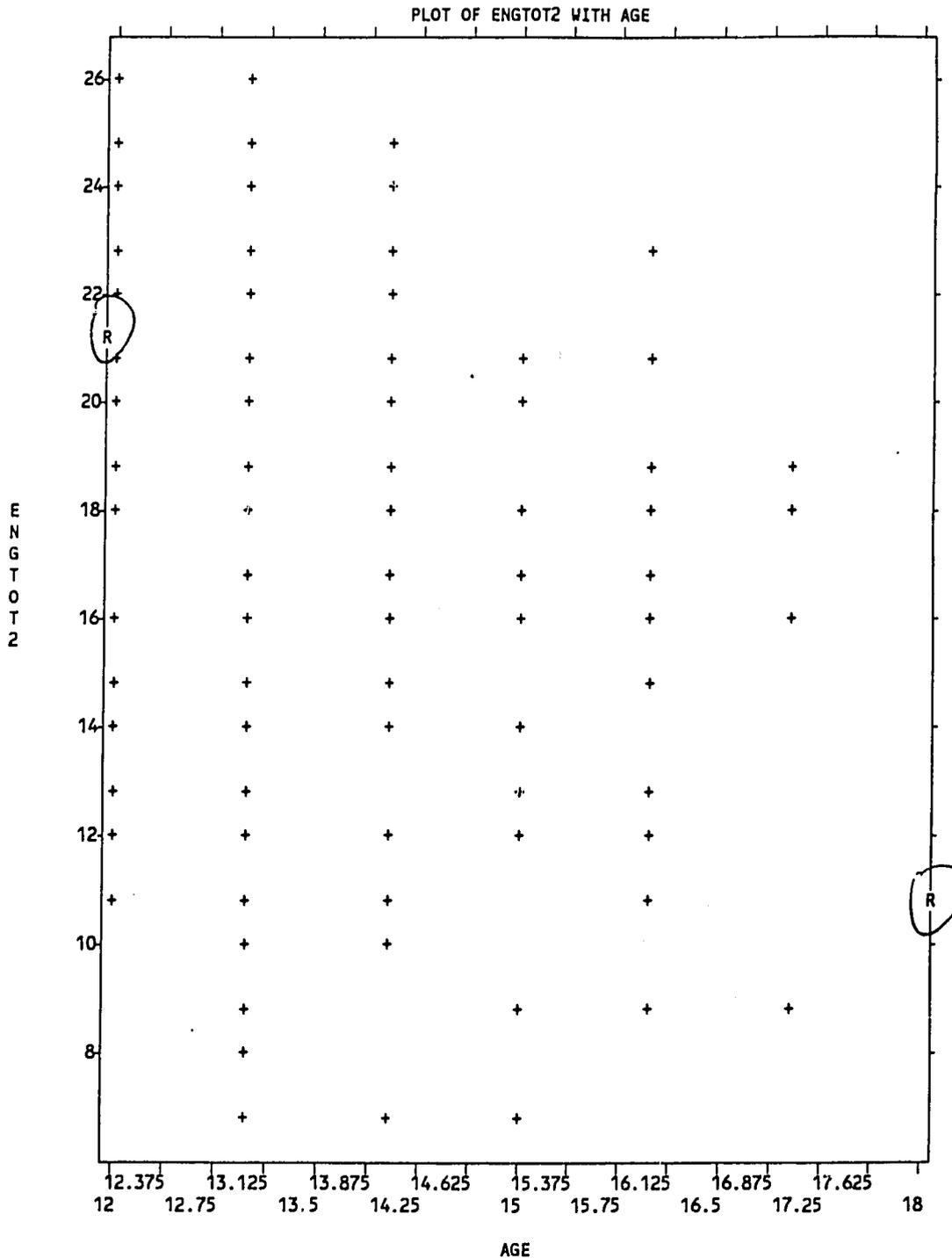


Figure 2.11-B

PLOTS OF ENGLISH-7 TES SCORE BY PUPIL AGE
AFRIKAANS HOME-LANGUAGE PUPILS ONLY



70

Table 2.5

CORRELATIONS BETWEEN ENGLISH-7 TES SCORE AND PUPIL CHARACTERISTICS BY HOME LANGUAGE GROUP

Correlations:	ENGTOT2	AGE	SEX
ENGTOT2	1.0000 (0) P= .	-.2565 (1331) P= .000	-.0082 (1332) ✓ P= .383
AGE	-.2565 (1331) P= .000	1.0000 (0) P= .	-.2425 (1468) P= .000
SEX	-.0082 (1332) P= .383	-.2425 (1468) P= .000	1.0000 (0) P= .

ALL OWIMBO
HOME-LANG.

(Coefficient / (Cases) / 1-tailed Significance)

" . " is printed if a coefficient cannot be computed

Correlations:	ENGTOT2	AGE	SEX
ENGTOT2	1.0000 (0) P= .	-.3994 (363) P= .000	.1968 (363) ✓ P= .000
AGE	-.3994 (363) P= .000	1.0000 (0) P= .	-.2777 (541) P= .000
SEX	.1968 (363) P= .000	-.2777 (541) P= .000	1.0000 (0) P= .

AFRIKAANS
HOME LANG.

(Coefficient / (Cases) / 1-tailed Significance)

Figure 2.13-A

PLOT BETWEEN SCHOOL-LEVEL URBAN INDICATOR [electricity]
AND AVERAGE ENGLISH-7 TES SCORE

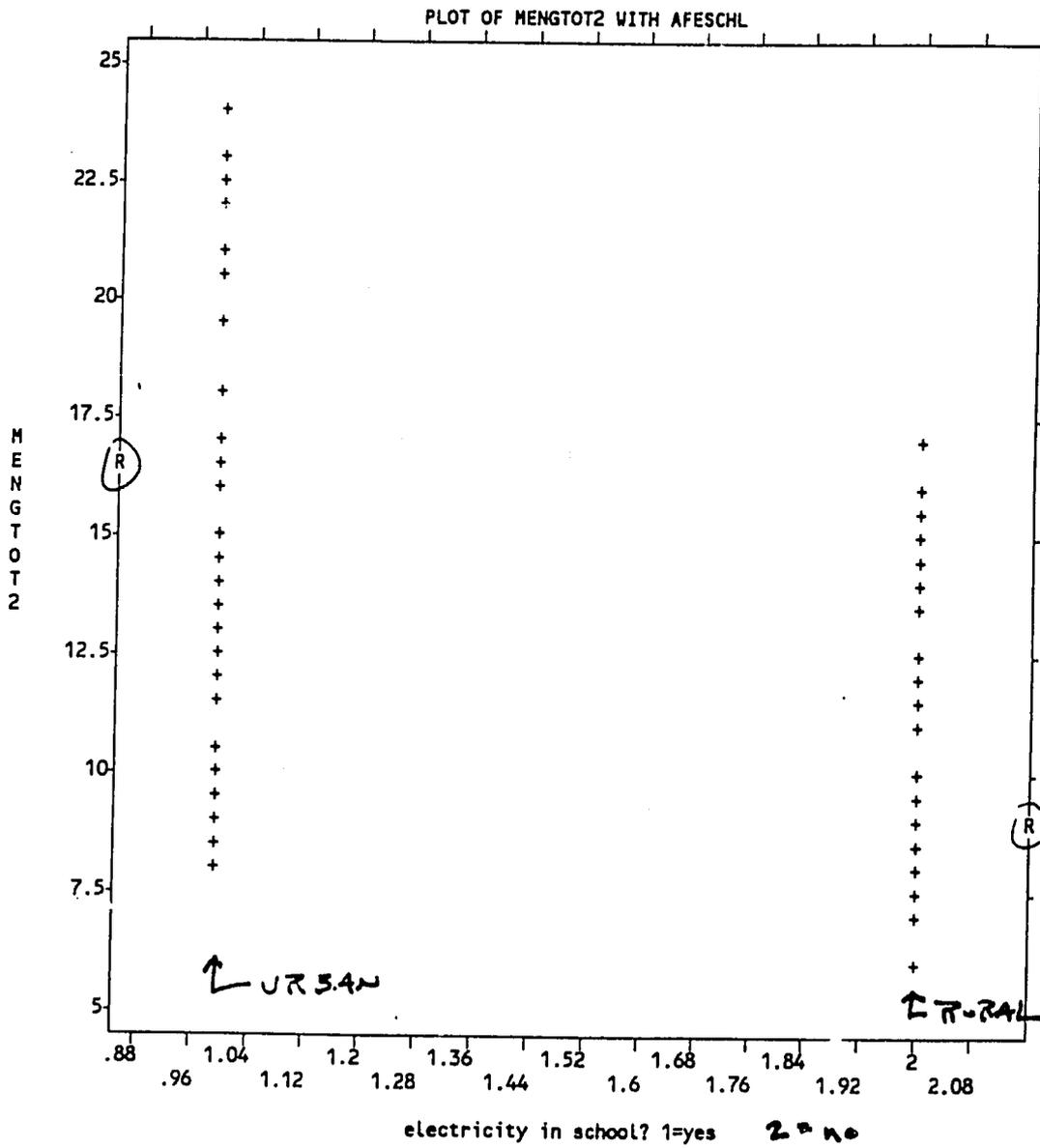
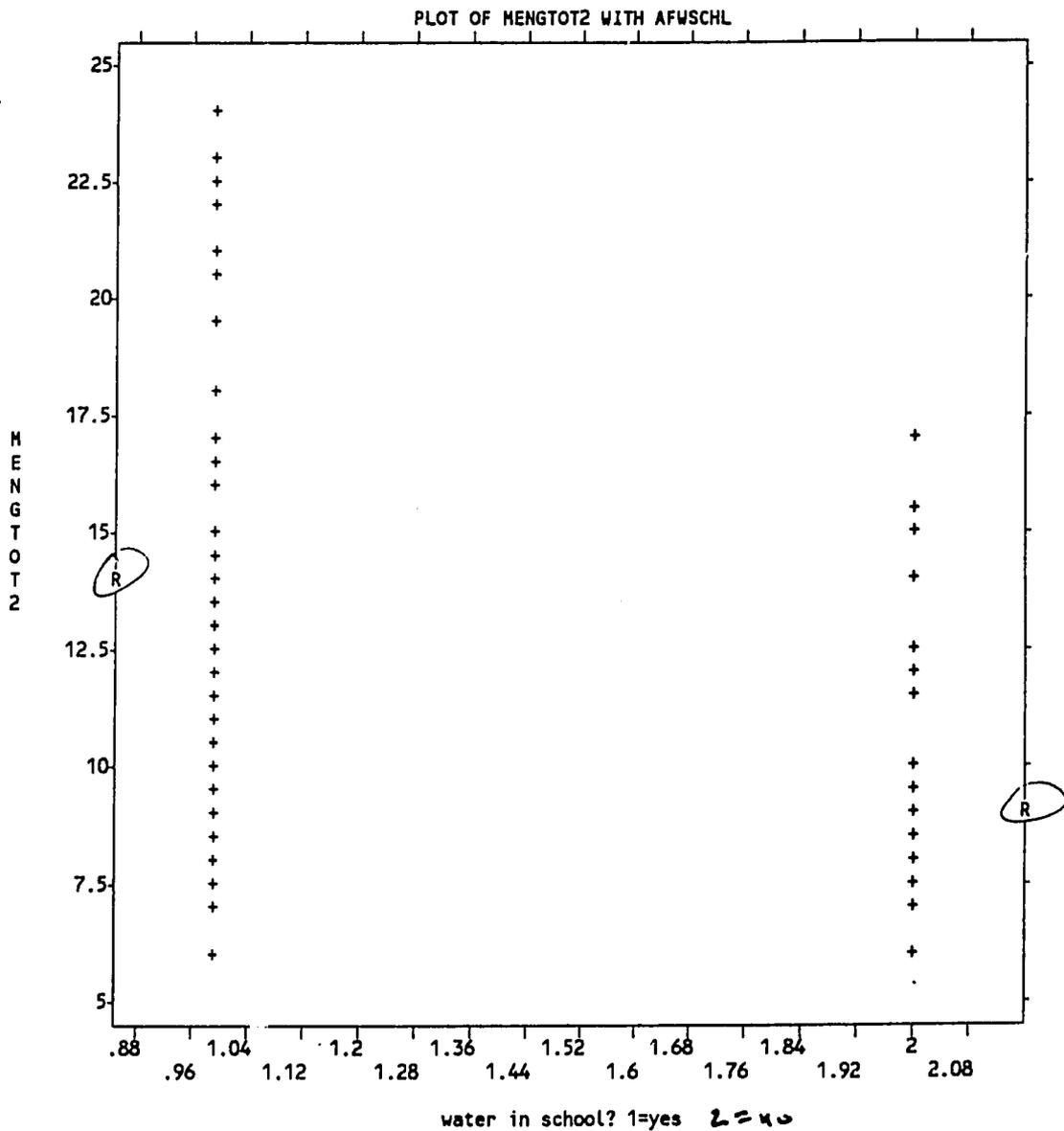


Figure 2.13-B

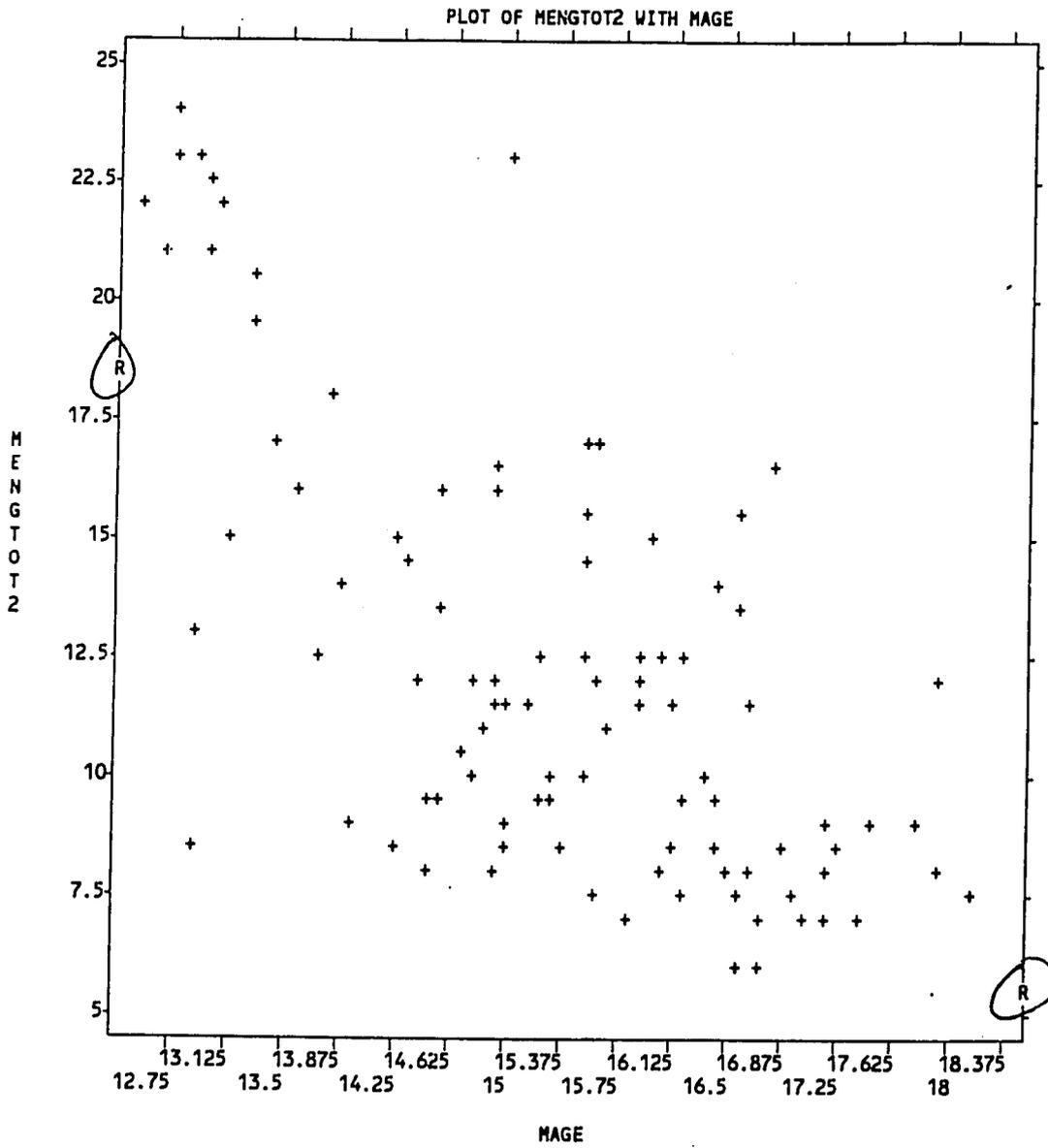
PLOT BETWEEN SCHOOL-LEVEL URBAN INDICATOR [water]
AND AVERAGE ENGLISH-7 TES SCORE



93 cases plotted. Regression statistics of MENGTOT2 on AFWSCHL:
Correlation $-.37817$ R Squared $.14301$ S.E. of Est 4.19464 2-tailed Sig. $.0002$
Intercept(S.E.) $16.92696(1.30524)$ Slope(S.E.) $-3.62596(.93048)$

Figure 2.14

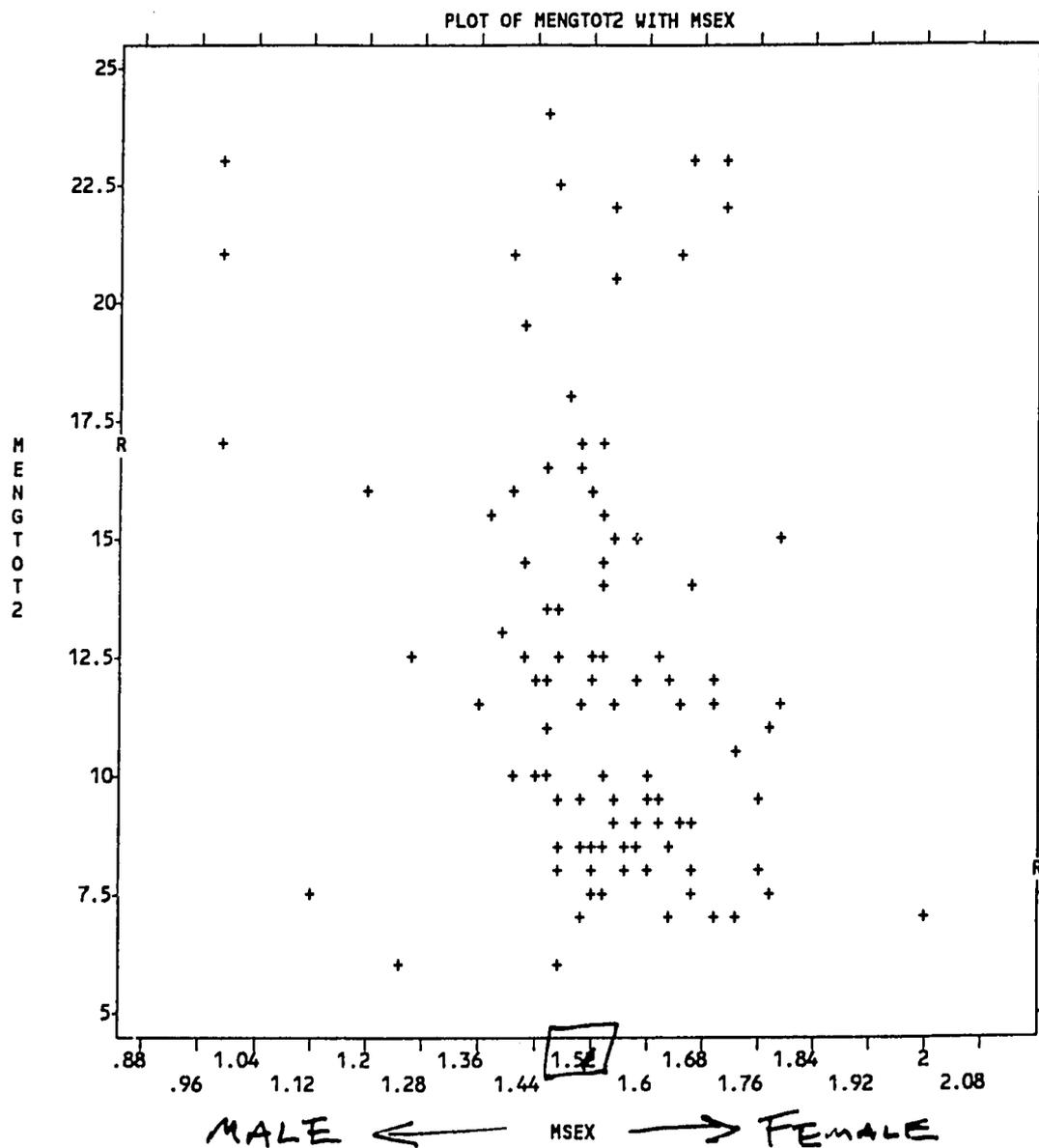
PLOT BETWEEN SCHOOL-LEVEL AVERAGE PUPIL AGE AND
AVERAGE ENGLISH-7 TES SCORE



Correlation -0.67570 Squared .45657 S.E. of Est 3.43571 2-tailed Sig. .0000
Intercept(S.E.) 45.98556(3.77086) Slope(S.E.) -2.20038(.24501)

Table 2.6

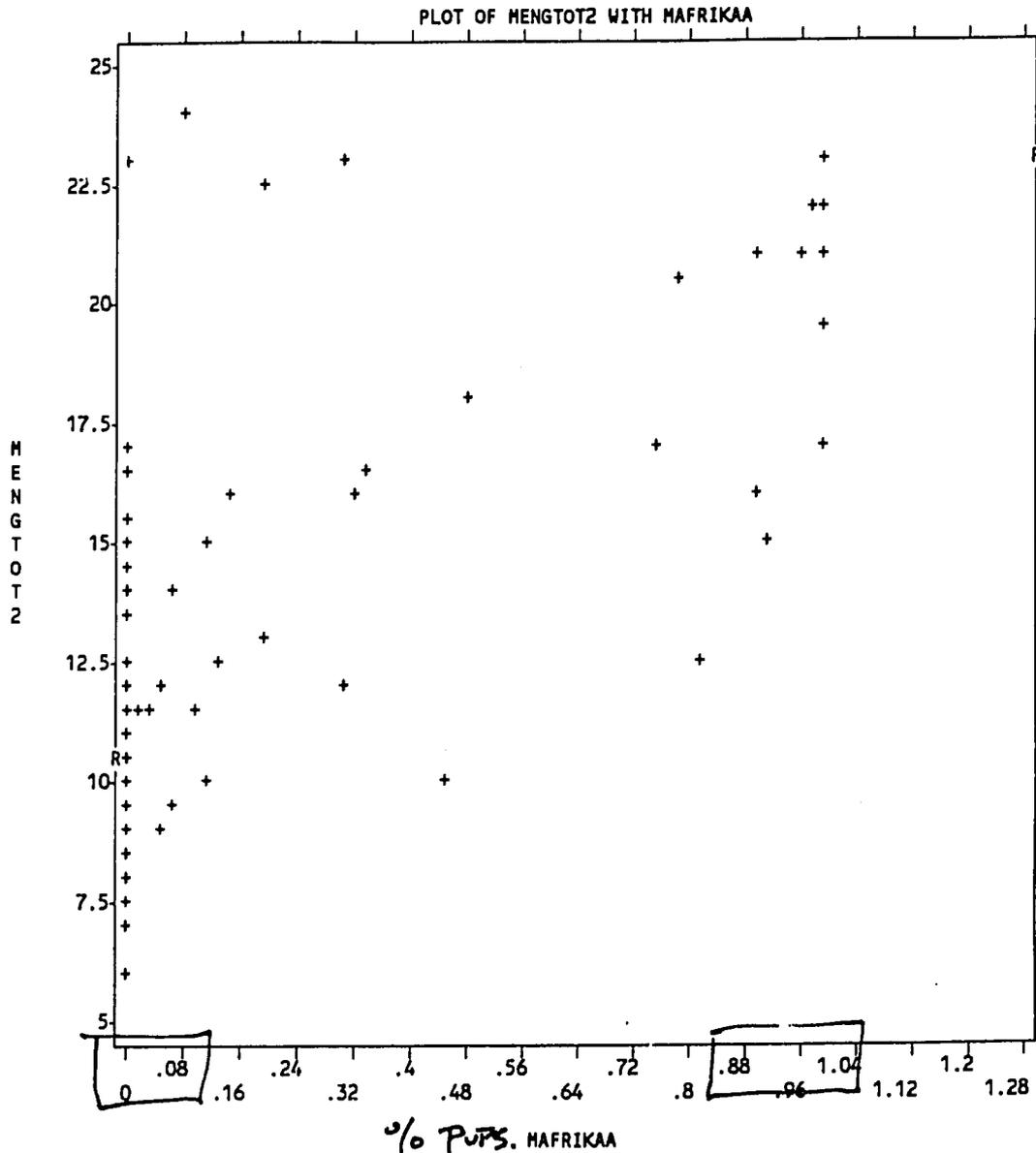
PLOT AND CORRELATION BETWEEN SCHOOL-LEVEL GENDER MEAN and AVERAGE ENGLISH-7 TES SCORE



98 cases plotted. Regression statistics of MENGTOT2 on MSEX:
Correlation $-.25622$ R Squared $.06565$ S.E. of Est 4.50504 2-tailed Sig. $.0109$
Intercept(S.E.) $23.47862(4.34199)$ Slope(S.E.) $-7.31955(2.81831)$

Table 2.7-A

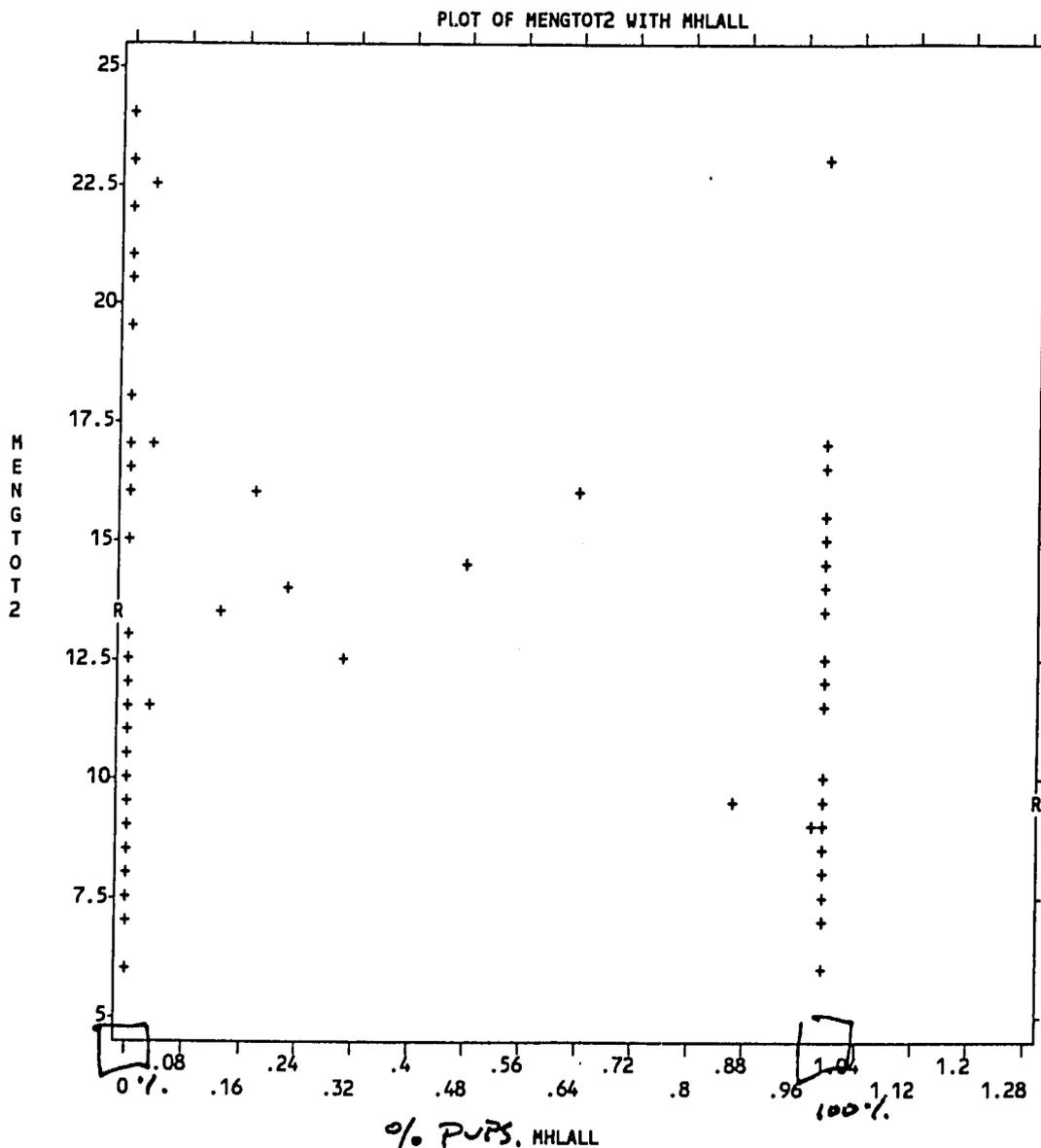
**PLOT AND CORRELATION BETWEEN SCHOOL-LEVEL
AFRIKAANS HOME LANGUAGE and AVERAGE ENG-7 TES SCORE**



98 cases plotted. Regression statistics of MENGTOT2 on MAFRIKAA:
 Correlation .65811 R Squared .43310 S.E. of Est 3.50909 2-tailed Sig. .0000
 Intercept(S.E.) 10.73711(.39678) Slope(S.E.) 9.61875(1.12315)

Table 2.7-B

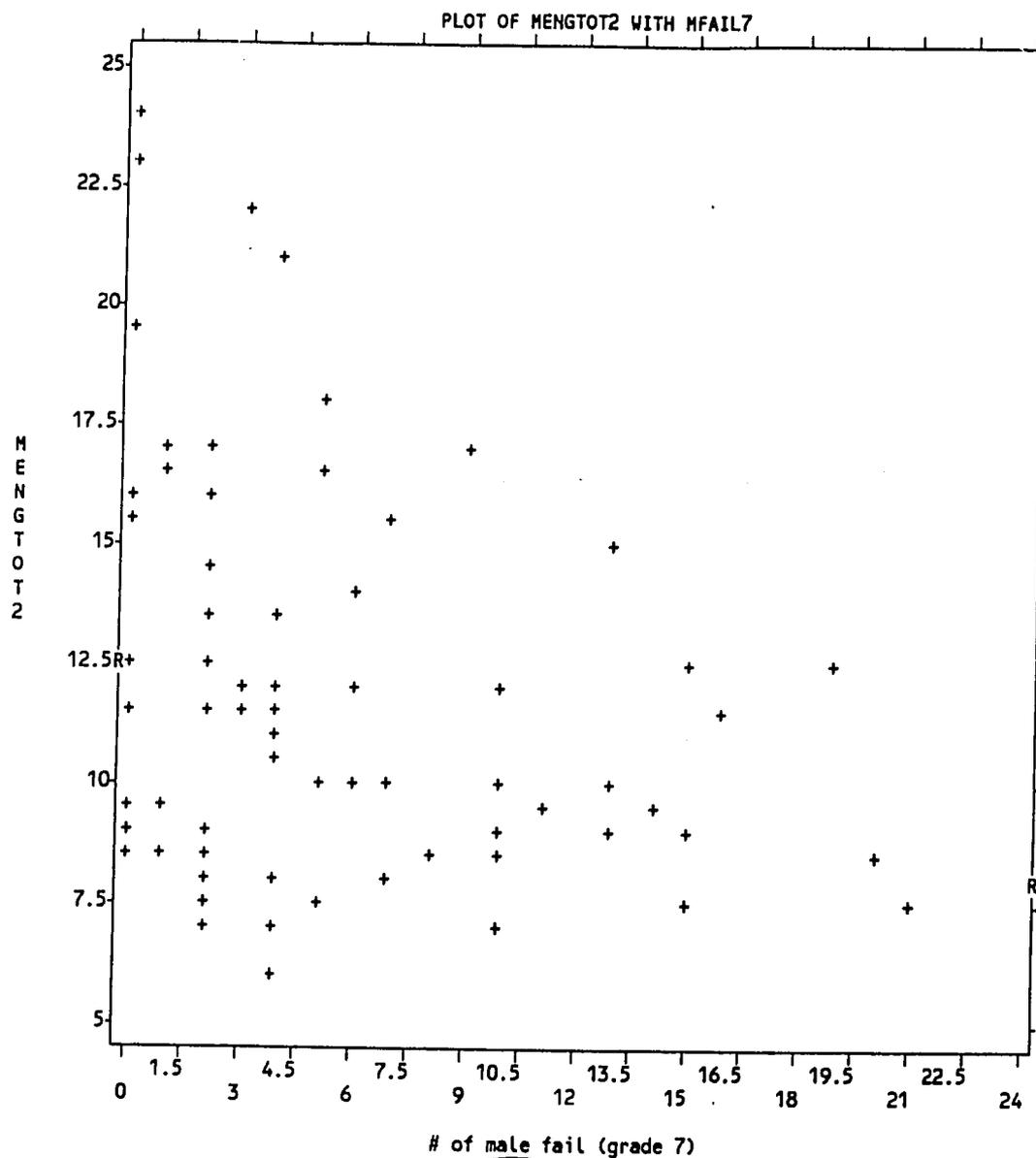
PLOT AND CORRELATION BETWEEN SCHOOL-LEVEL ALL-OWAMBO HOME LANG and AVERAGE ENG-7 TES SCORE



98 cases plotted. Regression statistics of MENGTOT2 on MHLALL:
 Correlation -0.32180 R Squared .10355 S.E. of Est 4.41271 2-tailed Sig. .0012
 Intercept(S.E.) 13.61229(.60218) Slope(S.E.) -3.08094(.92518)

Figure 2.15-A

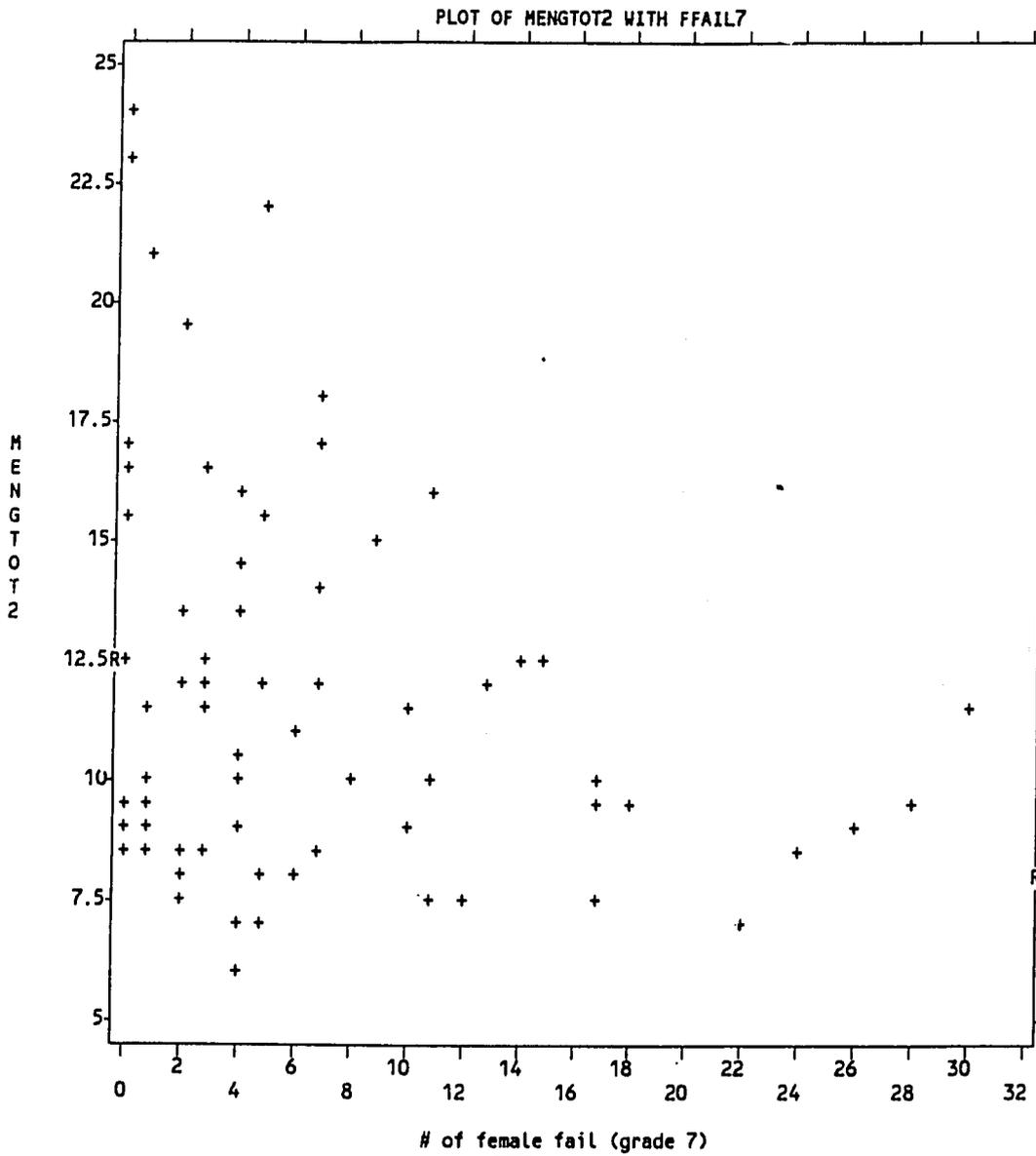
PLOT OF NUMBER BOYS FAILING GRADE 7 BY ENGLISH-7 TES SCORE [SCHOOL-LEVEL AVERAGES]



76 cases plotted. Regression statistics of MENGTOT2 on MFAIL7:
Correlation $-.25389$ R Squared $.06446$ S.E. of Est 3.90514 2-tailed Sig. $.0269$
Intercept(S.E.) $12.74052(.63903)$ Slope(S.E.) $-.18891(.08366)$

Figure 2.15-B

**PLOT OF NUMBER GIRLS FAILING GRADE 7 BY
ENGLISH-7 TES SCORE [SCHOOL-LEVEL AVERAGES]**



76 cases plotted. Regression statistics of MENGTO2 on FFAIL7:
Correlation $-.25405$ R Squared $.06454$ S.E. of Est 3.90497 2-tailed Sig. $.0268$
Intercept(S.E.) $12.62206(.60254)$ Slope(S.E.) $-.14388(.06768)$

Table 2.8

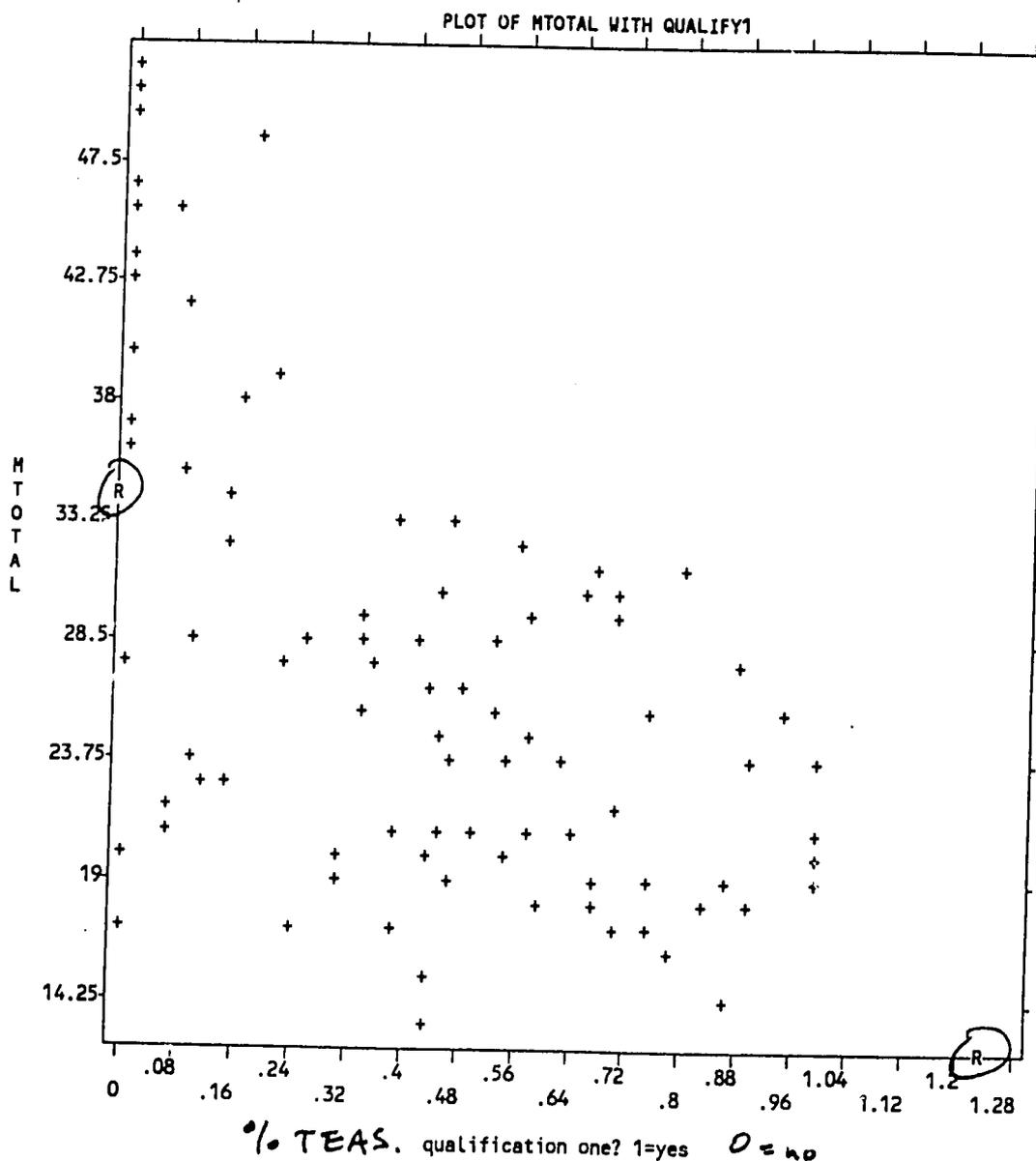
**CORRELATIONS BETWEEN URBAN INDICATORS AND
AGGREGATED [SCHOOL-LEVEL] PUPIL CHARACTERISTICS**

AFESCHL	School has Water AFWSCHL	School has Electricity
1. Mean Pupil Age	-.43	-.61
2. More Girls Enr.	-.25	-.16
3. Afrikaans home language	.34	.50
4. All Owambo home language	-.37	-.33

School-level [Level 2] data. $N = 95$.

Figure 2.16

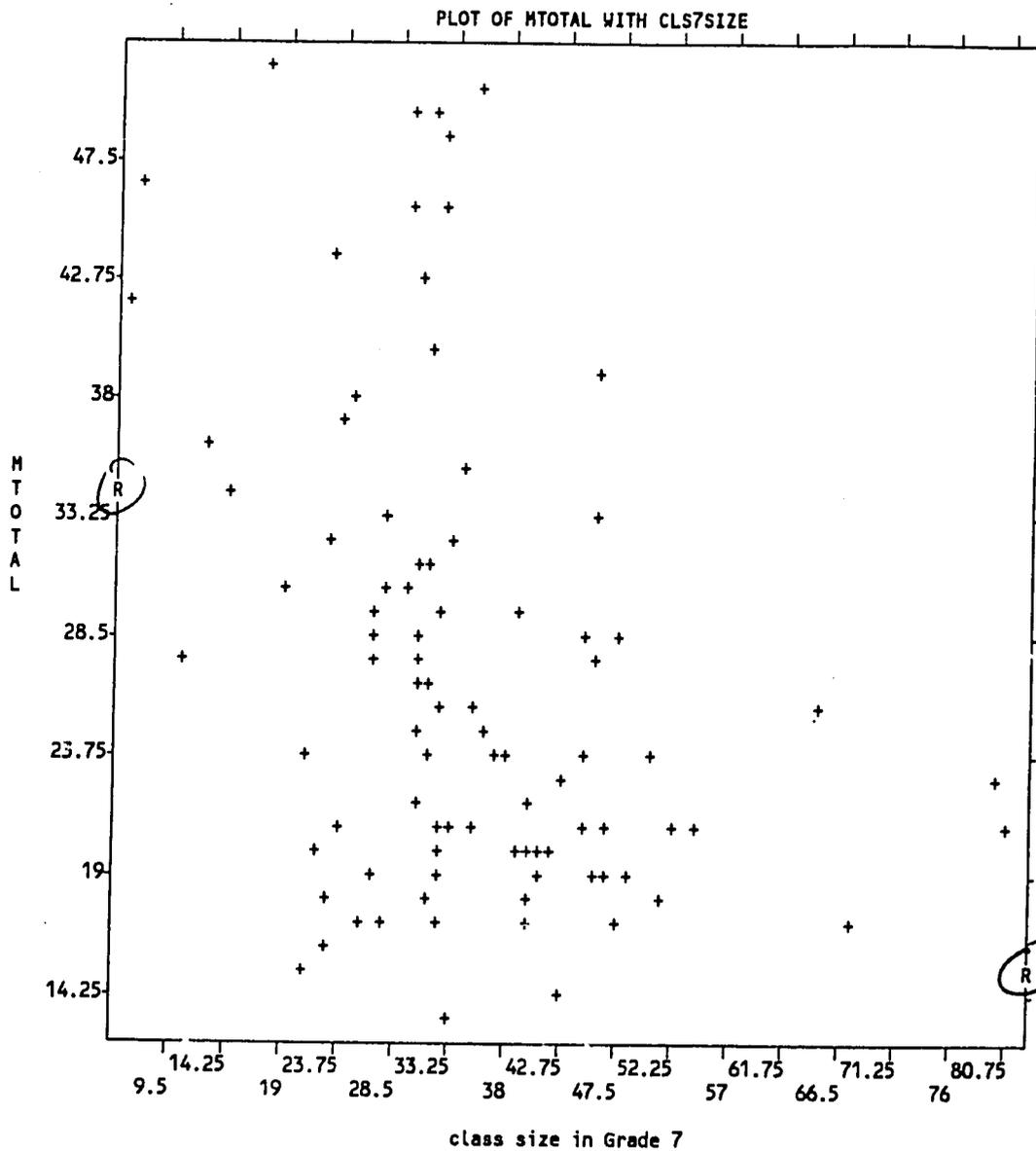
PLOT BETWEEN MEAN NUMBER OF TEACHERS WITH QUALIFICATION-1 and AVERAGE MATHS-7 TES SCORE



9. cases plotted. Regression statistics of MTOTAL on QUALIFY1:
Correlation $-.54794$ R Squared $.30024$ S.E. of Est 7.90827 2-tailed Sig. $.0000$
Intercept(S.E.) $34.18657(1.40792)$ Slope(S.E.) $-16.90718(2.72077)$

Figure 2.17

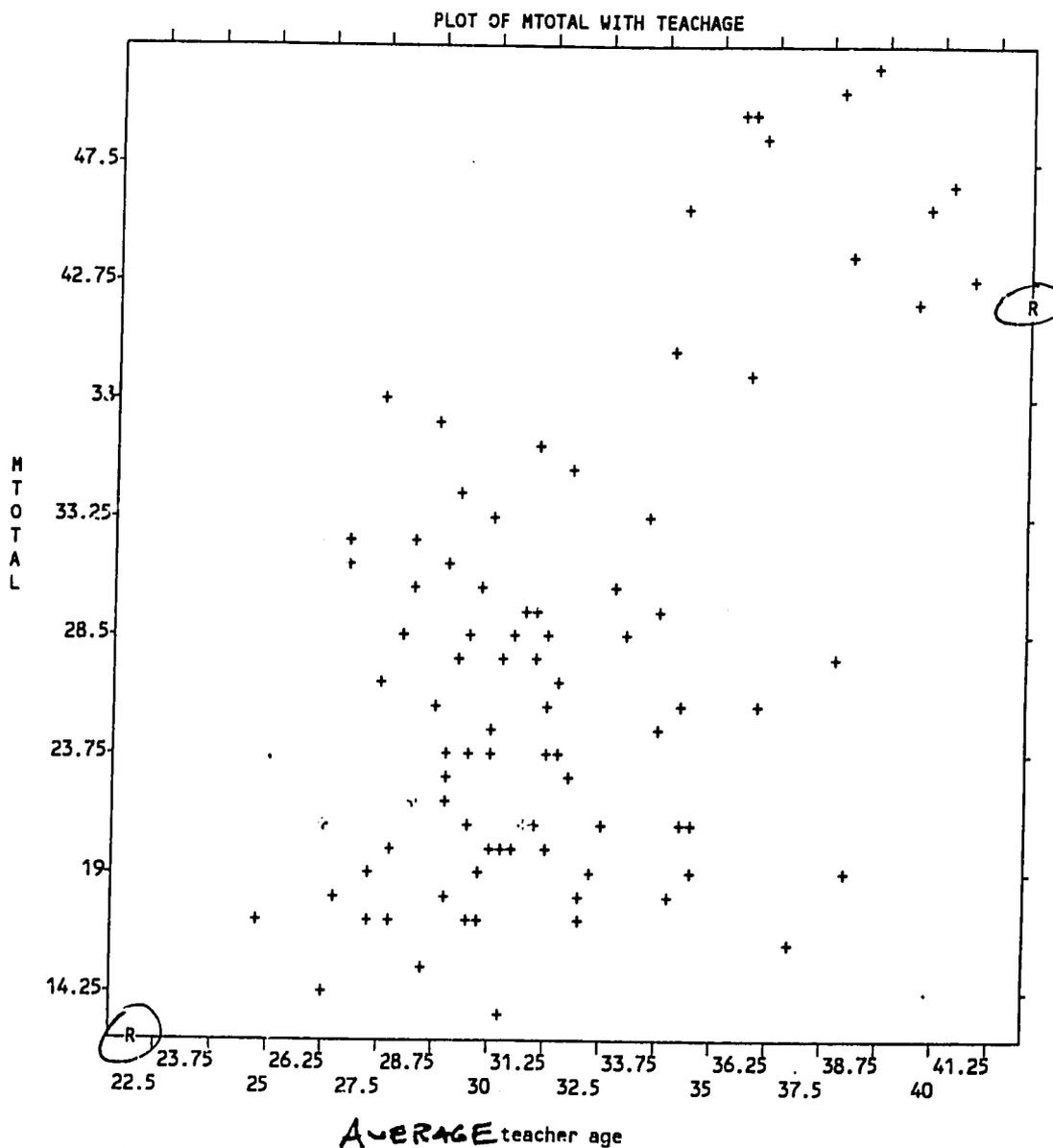
**PLOT BETWEEN MEAN CLASS SIZE IN GRADE 7
and AVERAGE MATHS-7 TES SCORE**



92 cases plotted. Regression statistics of MTOTAL on CLS7SIZE:
Correlation $-.36137$ R Squared $.13059$ S.E. of Est 8.81494 2-tailed Sig. $.0004$
Intercept(S.E.) $36.15821(2.63084)$ Slope(S.E.) $-.26155(.07114)$

Figure 2.18

**PLOT BETWEEN MEAN TEACHER AGE
and AVERAGE MATHS-7 TES SCORE**



92 cases plotted. Regression statistics of MTOTAL on TEACHAGE:
Correlation .54685 R Squared .29904 S.E. of Est 7.91502 2-tailed Sig. .0000
Intercept(S.E.) -18.91583(7.47103, Slope(S.E.) 1.46252(.23602)

Table 2.9

**CORRELATIONS BETWEEN SCHOOL QUALITY MEASURES
[PLUS PUPIL CHARACTERISTICS] AND MATHS-7 TES SCORES**

Correlations:							
	MAGE	MSEX	MAFRIKAA	MOSHIDON	MHLALL	MWAMBO	
MATHS → MENTOT1	-.6819**	-.1640	.6817**	-.2528*	-.3337**	-.0820	
MENTOT2	-.6791**	-.1368	.6594**	-.2228	-.3253**	-.0786	
MTOTAL	-.6943**	-.2583*	.7116**	-.3080*	-.5795**	-.3131*	
N of cases:	90	1-tailed Signif: * - .01 ** - .001					
" . " is printed if a coefficient cannot be computed							

Page	85	SPSS/PC+				5/7/93	
This procedure was completed at 16:47:09							
CORR/VARI MENTOT1 MENTOT2 MTOTAL WITH TEACHAGE APEXPT QUALIFY1 QUALIFY4							
AFWSCHL AFESCHL CLS7SIZE.							

Page	86	SPSS/PC+				5/7/93	
Correlations:							
	TEACHAGE	APEXPT	QUALIFY1	QUALIFY4	AFWSCHL	AFESCHL	CLS7SIZE
MATHS → MENTOT1	.4849**	.3413**	-.5920**	.7780**	-.3709**	-.5939**	-.3491**
MENTOT2	.4715**	.3430**	-.5687**	.7492**	-.3587**	-.5987**	-.3296**
MTOTAL	.5205**	.4175**	-.5626**	.7631**	-.5387**	-.6904**	-.3571**
N of cases:	89	1-tailed Signif: * - .01 ** - .001					
" . " is printed if a coefficient cannot be computed							

Table 2.10

**CORRELATIONS BETWEEN SCHOOL CONTEXT [INC. URBAN]
AND SCHOOL QUALITY MEASURES**

Outside of Ondangwa and Rundu Regions

Correlations:	CLS7SIZE	QUALIFY1	APEXPT	TEACHAGE
MHLALL	.1772 (47) P= .117	-.0349 (47) P= .408	-.2238 (47) P= .065	-.1516 (47) P= .155
AFWSCHL (NA)	.1402 (47) P= .174	.2110 (47) P= .077	.0484 (47) P= .373	.0108 (47) P= .471
AFESCHL (NA)	.0259 (47) P= .431	.3598 (47) P= .006	-.1472 (47) P= .162	-.3039 (47) P= .019

Table 2.11

**CORRELATIONS BETWEEN SCHOOL CONTEXT [INC. URBAN]
AND SCHOOL QUALITY MEASURES**

Within Ondangwa and Rundu Regions Only

Correlations:	CLS7SIZE	QUALIFY1	APEXPT	TEACHAGE
MHLALL	.1270 (46) P= .200	-.1937 (47) P= .096	<u>-.3621</u> (47) P= .006	-.3418 (47) P= .009
AFWSCHL	.0023 (46) P= .494	.1580 (47) P= .144	.0656 (47) P= .331	.0455 (47) P= .381
AFESCHL	.0255 (46) P= .433	-.2223 (47) P= .067	-.0194 (47) P= .449	-.0272 (47) P= .428